



# **BIDTI: Supplemental program to for opioid response**

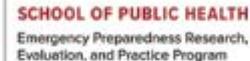
**Shawn G. Gibbs, PhD, MBA, CIH**  
**Executive Associate Dean**  
**Professor of Environmental Health**  
**Indiana University School of Public Health**  
**[gibss@indiana.edu](mailto:gibss@indiana.edu)**

# Biosafety and Infectious Disease Training Initiative (BIDTI)

## A National Institute of Environmental Health Sciences (NIEHS) Worker Training Program (WTP)

5UH4 ES027055 (Ebola Biosafety and Infectious Disease Response)

A Consortium Of:



Funded by:



National Institute of  
Environmental Health Sciences

# Presentation Outline

1. What are opioids?
2. Occupational exposure risks.
3. BIDTI Opioid Supplement, Program Year 3
  - Addressing Opioid-Related Hazards in High Risk Populations
  - Partnership with Eppley Institute for Parks and Public Lands

Thank you to the NIEHS Clearing House, Jonathan Rosen, Theresa Tonozzi, and Aurora Le for their contributions to this presentation.



## What Is an Opioid?

- ❖ A class of drugs used to reduce pain.
- ❖ Prescription opioids are prescribed to treat moderate to severe pain, but have serious risks and side effects.
- ❖ Common types: oxycodone (OxyContin), hydrocodone (Vicodin), morphine, and methadone.
- ❖ Illegal opioid: heroin.





# Protection from Occupational Exposure to Fentanyl and Other Synthetic Opioids

## What Is Fentanyl?

- ❖ A powerful synthetic drug, similar to morphine and heroin.
- ❖ 50 to 100 times more potent than morphine.
- ❖ A rapid-acting synthetic opioid that alleviates pain.
- ❖ Acts quickly to depress central nervous system and respiratory function.
- ❖ Exposure may be fatal.

Source:

<https://www.cdc.gov/drugoverdose/opioids/fentanyl.html>

## How Much Fentanyl Is Fatal?

2-3 milligrams of fentanyl can induce respiratory depression, arrest, and death.

Comparable to 5-7 grains of salt!

**\*\*Fentanyl exhibits 30x greater absorption rate in mucous membranes than intact skin!**



## What Are Some Other Drugs in This Class?

Acetylfentanyl

Butyrfentanyl

Carfentanil

Alfentanil

Sufentanil

Remifentanil

# What Are Chemical Characteristics of Fentanyl?



- ❖ May be powders, liquids, nasal sprays, or pills.
- ❖ Particle size ranges from 0.2 to 2.0 microns.
- ❖ Powders are easily aerosolized and are a respiratory hazard.
- ❖ Skin absorption is a concern, but slower in effect than inhalation.

## Worker Populations with Potential Exposure



## Worker Populations with Potential Exposure

Industry	Job Tasks
Pre-hospital (EMS)	911 calls involving treating, stabilizing, and transporting overdose cases.
Law enforcement	Investigating, frisking, arresting, transporting people with drugs or who have overdosed.
Crime laboratories	Evidence handling and laboratory evaluation of confiscated drugs and drug paraphernalia.
Health care	Emergency room treatment of overdose cases. Illicit introduction of contraband into patient rooms.
Environmental services	Cleaning of affected crime scenes or spills.
Fire service	Fire suppression at contaminated locations.
Public employers (DOT, Highway Maintenance, Parks, Environmental Conservation, Corrections & Parole Officers)	Removal of needles and drug paraphernalia from public roads, highways, and parks. Confiscation of contraband, searching, arresting.

## Background on the Epidemic

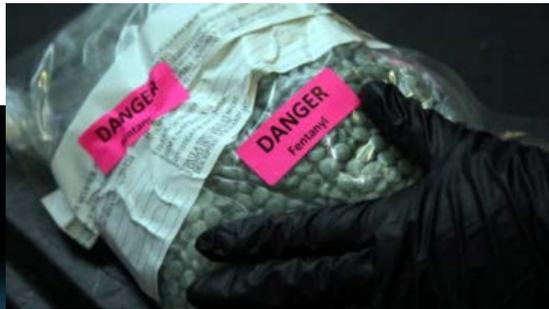
- ❖ Fentanyl overdoses ↑  
up 540% in 3 years.
- ❖ Drug overdoses killed  
64,000 in the U.S. in  
2016.
- ❖ Leading cause of death  
for Americans under 50.
- ❖ Deaths from synthetic  
opioids, mostly  
fentanyls, increased  
from 3,000 (2013) to  
20,000 (2016).



**Lethal doses of heroin, carfentanil,  
and fentanyl (U.S. DEA photo)**

## Illicit Opioids Are the Major Cause of the Crisis

- ❖ Synthetic opioids are often mixed with heroin and other illicit drugs.
- ❖ Formulated into tablets that look like therapeutic drugs.
- ❖ Frequently, users don't know that the drug they are using has fentanyl in it.





## USDA Launches Interactive Data Tool to Help Rural Communities Address the Opioid Crisis

*New Community Assessment Tool Empowers Rural Leaders to Make Data-Driven Decisions to Build Resilient Communities*

**WASHINGTON, Oct. 4, 2018** – Assistant to the Secretary for Rural Development Anne Hazlett today announced the United States Department of Agriculture (USDA) has launched an interactive data tool to help community leaders build grassroots strategies to address the opioid epidemic.

“Under the leadership of President Trump, USDA is committed to being a strong partner to rural America in addressing this monumental challenge,” Hazlett said. “Local leaders in small towns across our country need access to user-friendly and relevant data to help them build grassroots solutions for prevention, treatment and recovery.”

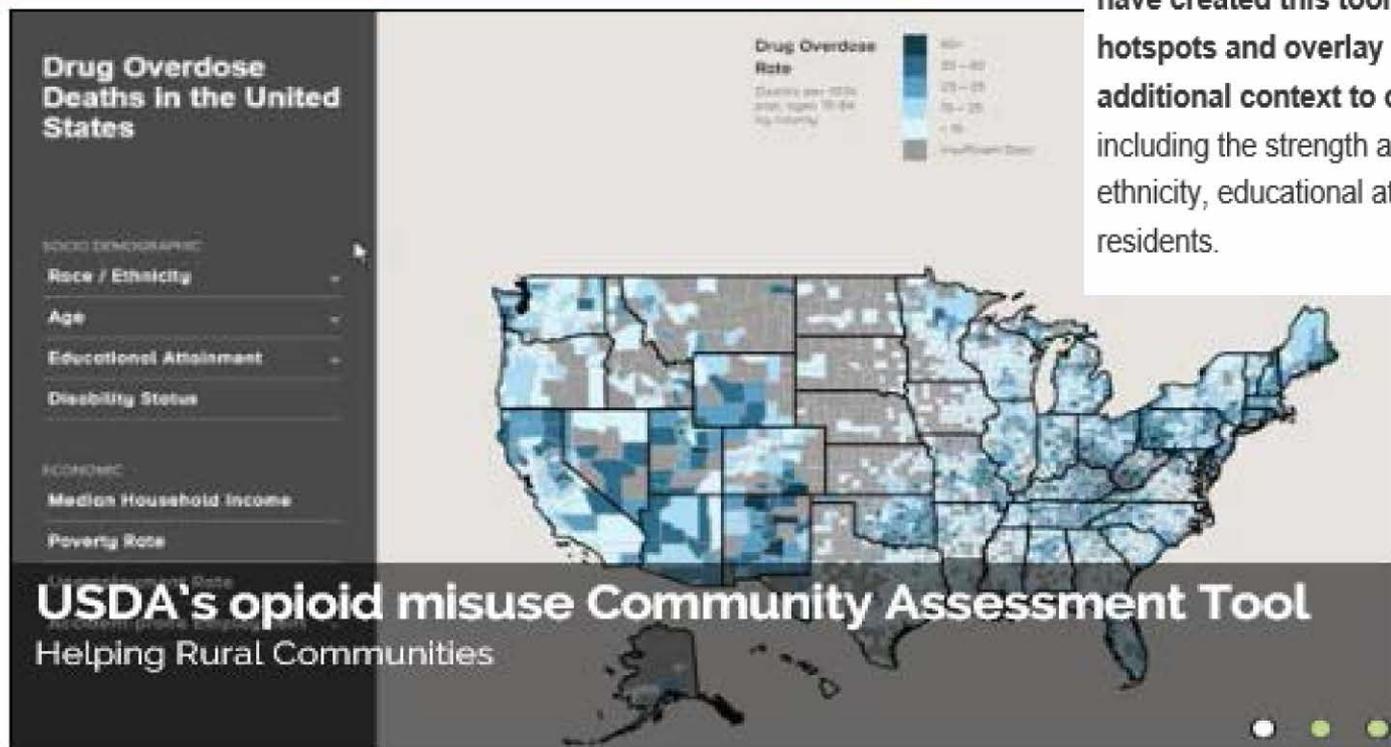
The opioid misuse [Community Assessment Tool](#) enables users to overlay substance misuse data against socioeconomic, census and other public information. This data will help leaders, researchers and policymakers assess what actions will be most effective in addressing the opioid crisis at the local level.

# The Growth of an Epidemic

The Opioid Crisis is Contributing to Lowering U.S. Life Expectancy.

To better understand the national opioid crisis and inform effective conversations and interventions...

NORC at the University of Chicago and the U.S. Department of Agriculture's USDA Rural Development have created this tool to allow users to map overdose hotspots and overlay them with data that provide additional context to opioid addiction and death - including the strength and diversity of local economies, ethnicity, educational attainment, and disability status of residents.



<https://opioidmisusetool.norc.org/>



# 80+ people overdose in a Connecticut park in 1 day

Written by Alyssa Rege | August 17, 2018 | [Print](#) | [Email](#)

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Connecticut police arrested at least three people in connection to an incident Aug. 15 during which more than 80 people overdosed at a park in New Haven, according to [ABC News](#).

 Tweet

0  
 Share

Officials with the New Haven fire department told [ABC News](#) emergency crews were overwhelmed with 911 calls about possible overdose victims just after after 8 a.m. Aug. 15. Twenty-five overdoses occurred within a three-hour time frame in the morning.

 G+

Seventy-one individuals suffering from apparent overdoses were transported to nearby hospitals, while five individuals refused medical attention and were not in need of hospital care. Two individuals exhibited life-threatening symptoms, police said.

A city official told [ABC News](#) the victims appeared to be suffering from "multiple of signs and symptoms ranging from vomiting, hallucinating, high blood pressure, shallow breathing, semi-conscious and unconscious states."



# The Opioid Crisis

June 5, 2018, Feature, by Vitisia Paynich



## How park and recreation agencies are helping children and families cope with this epidemic

On March 4, 2017, law enforcement was dispatched to a scene in Sharon, Pennsylvania. When police officers arrived outside an apartment located on Connolly Boulevard, they encountered a 5-year-old boy, who led them into the residence where his parents lay unresponsive from a suspected drug overdose. Emergency medical technicians administered Narcan to the father, who regained consciousness, while the mother awoke without the need for the medicine. Although these types of emergencies have become widespread, most startling, in this case, was the fact that the son was the one who called 911.

"I think this one is going to stick with me a little more," Sharon Police officer Andrew O'Shall told a WKBN-NBC4 reporter. "Just the fact that it was a 5-year-old that watched his parents overdose in front of him and could have potentially died had he not called."

Unfortunately, this type of traumatic event is becoming all too common for children living in cities and towns across the United States. Drug endangered children, as

defined by the National Alliance for Drug Endangered Children, are those "who are at risk of suffering physical or emotional harm as a result of illegal drug use, possession, manufacturing, cultivation or distribution. They may also be children whose caretaker's substance misuse interferes with the caretaker's ability to parent and provide a safe and nurturing environment." In some instances, these children — in the absence of their parent — take on the role of primary caregiver to their younger siblings.



# Waves of overdoses just keep coming in Bloomington

Police, medics respond to 9 overdoses over weekend along Kirkwood Avenue

By Laura Lane and Abby Tonsing 812-331-4362 | llane@heraldt.com 812-331-4245 | atonsing@heraldt.com Jun 27, 2017 

## First responders in Indiana college town called to 27 overdoses in one week

Jun 30th 2017 11:46AM

 SHARE



# phase one projects of the Responding to the Addictions Crisis Grand Challenges initiative

Indiana University School of Nursing Dean and Distinguished Professor Robin Newhouse has announced the phase one projects of the Responding to the Addictions Crisis Grand Challenges initiative.

As part of [IU's \\$50 million commitment to prevent, reduce and treat addictions in Indiana](#), initial pilot grants feature collaborative teams of faculty members, researchers, community organizations and cross-sector partners. Together, the projects will address all five focus areas of the statewide initiative: ground-level data collection and analysis;

**Learn more  
about phase  
one**

<https://grandchallenges.iu.edu/addiction/index.html>



# HEROIN AND AIDS

## WHO'S AT RISK



<https://www.wcpo.com/news/state/state-indiana/indiana-extends-public-health-emergency-for-scott-county-hiv-outbreak>



# Indiana extends public health emergency for Scott County HIV outbreak

**BY:** Associated Press, [David Holthaus](#)

**POSTED:** 6:19 PM, May 2, 2016

**UPDATED:** 6:25 PM, May 2, 2016

Nearly 200 people have tested positive for HIV in Scott County since an outbreak linked to sharing of needles used by drug users was identified early last year.

Adams says the risk factors that led to the HIV outbreak still exist in Scott County.

<https://www.wcpo.com/news/state/state-indiana/indiana-extends-public-health-emergency-for-scott-county-hiv-outbreak>



# BIDTI Plans and Progress

Year 3

2018-2019

- BIDTI has a unique opportunity to address the training needs of employees, associated with infectious diseases related to the opioid epidemic
- Currently utilizing the expertise of BIDTI faculty to develop training content for:
  - law enforcement
  - parks and recreation
  - public lands employees
  - volunteers
  - contractors
- Partnership with Eppley Institute for Parks and Public Lands (Eppley)

## INFOGRAM

Needlestick prevention during the opioid epidemic

Posted: Feb. 8, 2018

Opioid use and overdose numbers have reached epidemic levels nationwide. With increased IV drug use comes an increased risk of needlesticks during pat-downs, property searches and medical calls. Every call puts **first responders at risk for exposure** <sup>12</sup> to a variety of viral diseases such as HIV and Hepatitis.



In fact, the Centers for Disease Control and Prevention (CDC) estimates one-third of injection drug users between the ages of 18-30 are positive for Hepatitis C <sup>12</sup>, while older and prior users have a 70-90 percent infection rate. Some EMS agencies respond to 12 or more overdoses on average per day. You do the math on the risks.

<https://www.usfa.fema.gov/operations/infograms/020818.html>



# Opioid-related Infectious Diseases Exposure

Park employees and volunteers have been thrust onto the front lines of the opioid epidemic—parks and public lands have become a frequent location for opioid use and related behaviors, and thus a location for the improper disposal of opioid-related wastes



A volunteer outreach worker with an addiction and homeless advocacy group holds a needle used for drug injection that she found in November while cleaning up a homeless encampment in Everett, Wash. The nation, and Georgia, continue to struggle with an opioid abuse epidemic. AP Photo/Ted S. Warren

<https://www.myajc.com/news/opinion/opinion-some-next-steps-toward-fighting-opioid-abuse/gRvYKRyC3q4qrkOdWsfHiK/>



# Eppley History

1. Founded in 1993 at Indiana University
2. Named in honor of Dr. Garrett G. Eppley, a pioneer in park and recreation education
  - Eppley traces its mission and approach to Garrett Eppley's belief that a university should serve communities and lead the development of professionals who in turn serve the public



<https://eppley.org>



# Eppley's Mission

“...partner with recreation, park, and public land organizations in order to enhance access, choice, and quality of natural, cultural, and recreational experiences for all people. In accomplishing, the Institute advances knowledge, understanding, and appreciation of the increasingly complex and interconnected nature of parks, health, recreation, public lands and protected areas.”



<https://eppley.org/about-eppley/>



# Eppley's Goals:

- Advance knowledge by seeking emergent trends and concepts for understanding and application
- Actively enhance Eppley Institute resources and capacity
- Expand and diversify the ways in which we share our knowledge
- Expand and diversify our partnerships
- Create awareness and demand for our intellectual property



<https://eppley.org/about-eppley/>





## Do you Want to Share Your Expertise with a Broader Audience?

We are happy that you want to share your expertise with other parks and public lands professionals. The Eppley Institute for Parks and Public Lands at Indiana University is the leading expert in online

 July 17, 2018



## Eppley Partners with USA Softball

The Eppley Institute recently partnered with USA Softball to develop an online training program for front line volunteers and staff. USA Softball is designated by the United States Olympic Committee (USOC) as the National

 July 17, 2018



## Coming Soon: Micro-Learning Course on Facilitation for Parks and Public Lands Professionals

Do you wish sometimes that you could manage your workgroup or meetings better? Do you wonder after meetings if you have really obtained the best input on your group's project? Many agency leaders depend

 July 17, 2018

<https://eppley.org/category/news-releases/>

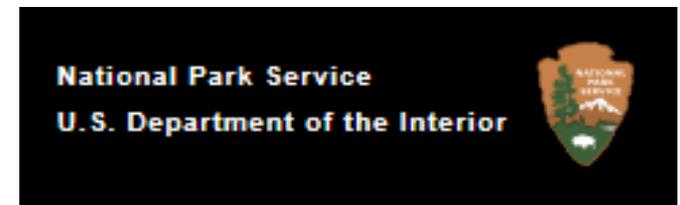
# Eppley's Reach

Eppley is involved in offering targeted trainings to a variety of park and public land entities, including the U.S. National Park Service, Bureau of Land Management, and numerous state and local parks and public lands

- Online Platform
- 40,000 full-time employees; 70,000 volunteers



<https://home.nps.gov/getinvolved/volunteer.htm?id=ande>



<https://nps.gov>



<https://blm.gov>



# Eppley's E-Delivery Platform

## Topic

- › Access (9)
- › Aquatics (6)
- › Archeology (2)
- › Asset Management (23)
- › Budgeting (4)
- › Citizen Boards (3)
- › Communication (17)
- › Compliance (12)
- › Conservation (33)
- › Cultural Resources (21)
- › Education/Instruction (32)
- › Facility Management (19)
- › Foundations (11)
- › Fundraising (1)
- › Global (6)
- › Health (7)
- › History (20)
- › Interpretation (24)
- › Leadership (11)
- › Management (38)
- › Media (1)
- › Parks (46)
- › Partnerships (2)
- › Permitting (1)
- › Planning (19)
- › Policy (9)
- › Programming (13)
- › Resource Mgmt (34)
- › Recreation (16)
- › Safety (9)



## Health Outcomes in Recreation Programming

### Part 2

In this three-part series of micro-learning, you will explore strategies park and recreation agencies can use to demonstrate impact on community health.

[Learn More](#)



## Managing Special Provisions in Wilderness: Insects and Disease

Learn about relevant considerations for managing insects and disease in wilderness.

[Learn More](#)



## Public Health Fundamentals for Park and Recreation Professionals Certificate

Promote understanding of your agency's vital contribution to community health and wellness. This comprehensive program incorporates place-based assignments and five online courses including the Public Health & YOU courses developed in partnership with the Indiana University School of Public Health.

[Learn More](#)

<http://provalenslearning.com/courses>



# BIDTI Trainings for Eppley

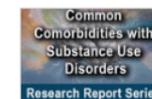
1. BIDTI faculty is developing content for Community and Awareness level trainings of infectious diseases related to the opioid epidemic
  - These courses will be incorporated into the Eppley's e-delivery platform
  - Courses will be made available free to all of Eppley's existing training partners, and marketed free through multiple national distribution lists
2. Fully Operational May 2019

The screenshot shows the NIH National Institute on Drug Abuse website. The main navigation bar includes 'Drugs of Abuse', 'Related Topics', 'Publications', 'Funding', 'News & Events', and 'About NIDA'. The breadcrumb trail is 'Home > Related Topics > Hepatitis (Viral)'. The article title is 'Viral Hepatitis—A Very Real Consequence of Substance Use'. A 'Related Topics' sidebar lists: Addiction Science, Adolescent Brain, Comorbidity, College-Age & Young Adults, Criminal Justice, and Drugged Driving. The article text begins: 'Hepatitis is an inflammation of the liver. It can be caused by a variety of toxins (such as drugs or alcohol), autoimmune conditions, or pathogens (including viruses, bacteria, or parasites).<sup>1</sup> Viral hepatitis is caused by a family of viruses labeled A, B, C, D, and E. To learn more about the route of transmission and prognosis for each virus, visit the CDC's Division of Viral Hepatitis. Hepatitis B (HBV) and hepatitis C (HCV) are the most common viral hepatitis infections'.



## [Drug Use and Viral Infections \(HIV, Hepatitis\)](#)

Discusses how people who engage in drug use or high-risk behaviors associated with drug use put themselves at risk for contracting or transmitting viral infections such as HIV/AIDS or hepatitis. (April 2018)  
[En Español](#)



## [Common Comorbidities with Substance Use Disorders](#)

Introduces a report that focuses on the topic of common physical and mental health comorbidities with substance use disorders, a research priority for NIDA. (February 2018)



## [HIV/AIDS](#)

Explores the link between drug abuse and HIV/AIDS and discusses treatment options, populations most at risk, trends in HIV/AIDS, and ways to counter these trends. (July 2012)  
[En Español](#)

<https://www.drugabuse.gov/related-topics/viral-hepatitis-very-real-consequence-substance-use>



# Community-Level Training

- Emphasize on education on disease transmission and the environmental persistence of organisms likely to be associated with opioid use paraphernalia
- Will give participants tools to apply and adapt their knowledge to avoid a variety of potential exposure scenarios
- Training for parks employee or volunteer before activity such as litter removal, stream water clean-up event



## What Are the Routes of Occupational Exposure? What is the True Risk of Skin Exposure?



Inhalation of powders and aerosols	Skin, eye, and mucous membrane absorption	Incidental ingestion (hand to mouth)	Accidental inoculation with sharps or needles
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### Example: Pick Up Tools

NYS DOT uses equipment to prevent exposure to contaminated sharps and drug paraphernalia dumped along the highway.



### Hand Washing & Self-Care Very Important!

- Personal hygiene
- Hand washing
- Sneeze into your elbow
- Vaccinations such as influenza and HBV
- Adequate rest, healthy eating, and exercise



# Awareness-Level Training

- For trainees to complete after the Community-Level training and their organizations' OSHA's Bloodborne Pathogens training
- Will delve deeper into the content to develop knowledge to recognize the hazards infectious disease risks from bloodborne pathogens associated with opioid use
- Include selection of the proper personal protective equipment (PPE) and donning and doffing techniques
- Include a section on how to safely administer naloxone to someone who is experiencing an opioid overdose

## Relevant OSHA Standards

- Bloodborne Pathogens standard, 29 CFR 1910.1030
- Personal Protective Equipment (PPE) standard, 29 CFR 1910.132.
- Hazard Communication standard, 29 CFR 1910.1200
- General Duty Clause (Sec. 5(a)(1)) of the Occupational Safety & Health Act
- Hazard Waste standard, 29 CFR 1910.120
- Details can be found in the OSHA 3090 Bloodborne Pathogens and Universal Precautions course.

## Exposure Dilemma



**Dilemma:** If someone vomits, bleeds, or otherwise spills body fluids in a public place **is this a potential exposure?**

**Exercise Universal Precautions:**  
**“If it is wet, and not yours, don’t touch it!”**

CDC

### Factors Influencing PPE Selection

- Type of exposure anticipated
  - Splash/spray versus touch
- Category
- Durability
- Fit

### Post-exposure Treatment

Naloxone (Narcan) should always be on hand, if available!



Injectable or nasal spray – sometimes multiple doses necessary



# Any Questions?

<http://www.fox5ny.com/news/bronx-parks-needle-disposals>



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Indiana University School of Public Health  
gibbss@Indiana.edu

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