The Opioid Epidemic in the United States

CDC Research Priorities

Tamara Haegerich, PhD
Associate Director for Science
Division of Unintentional Injury Prevention

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2000

Rapid Increase in Drug Overdose Death Rates by County

SOURCE: NCHS Data Visualization Gallery
2005 Rapid Increase in Drug Overdose Death Rates by County

SOURCE: NCHS Data Visualization Gallery
2010 Rapid Increase in Drug Overdose Death Rates by County

SOURCE: NCHS Data Visualization Gallery
2015 Rapid Increase in Drug Overdose Death Rates by County
RISE IN OPIOID DEATHS

Almost 310,000 people have died from an opioid overdose since 1999

Overlapping, Entangled but Distinct Epidemics

3 Waves

Natural and semi-synthetic opioids like oxycodone or hydrocodone

Heroin

Methadone

Synthetic opioids like fentanyl

Rise in Prescription Opioid Deaths in United States

1st Wave

Over 183,000 people have died from prescription opioids since 1999

Natural and semi-synthetic opioid death rate increased 4-fold from 1999 to 2011

Methadone death rate increased 6-fold from 1999 to 2007

Rise in Heroin Deaths in United States

2\textsuperscript{nd} Wave

Over 70,000 people have died from heroin since 2010

Heroin death rate has increased over 4 fold since 2010

Rise in Synthetic Opioid Deaths in United States – Likely Illicit Fentanyl

3rd Wave

Deaths from synthetic opioids excluding methadone increased from approximately 3,100 in 2013 to over 9,500 in 2015.

Synthetic opioid death rate (excluding methadone) has tripled in 2 years.

Sharp increases in opioid prescribing coincides with sharp increases in Rx opioid deaths

National Vital Statistics System, DEA's Automation of Reports and Consolidated Orders System
States with more opioid pain reliever sales tend to have more drug overdose deaths

Demographics
- Men
- 35-54 year olds
- Whites
- American Indians / Alaska Natives

Socioeconomics & Geography
- Medicaid
- Rural

Risk Factors
- Patients receiving opioids from multiple prescribers and/or pharmacies
- Patients taking high daily doses of opioids
- Depression, substance use disorder, and prior overdose
Today’s Heroin Epidemic
1275% Increase in 2 Years
Fentanyl-Related Deaths in Ohio 2013 - 2015
Number of law enforcement encounters testing positive for fentanyl is rising dramatically during the same time period. Fentanyl prescriptions, however, are relatively stable.
CDC RESPONSE
Pillars of CDC Activity

- **Improve data** quality and track trends

- **Strengthen state efforts** by scaling up effective public health interventions

- **Supply healthcare providers with resources** to improve patient safety
CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016

Continuing Education Examination available at http://www.cdc.gov/mmwr/cme/index.html

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
CDC Overdose Prevention in States Initiative

Five Components

- PDMPs
- System-Level
- Evaluate Policy
- Surveillance
- Rapid Response
Promising State Prevention Strategies Based on Research

Primary

Preventing a problem from occurring in the first place

• Provider guidelines
• Insurance strategies – prior authorization/quantity limits for opioids for pain

Secondary

Identify risk for the problem in the earliest stage so that prompt and appropriate management can be instituted

• Prescription drug monitoring programs
• Pain clinic regulation
• Insurance strategies – drug utilization review

Tertiary

Reducing or minimizing the consequences of a problem once it has developed

• Naloxone distribution
• Insurance strategies – patient review and restriction
• Increasing access to medication-assisted treatment for opioid use disorder
NCIPC Research Priorities

Four priority areas to identify factors that increase risk for opioid mortality, generate prevention strategies that work, and inform ways to enhance implementation.

1. Identify Risk and Protective Factors
   Identify factors that increase risk for prescription drug-related mortality, and identify risk and protective factors related to the co-use of prescription opioid pain relievers and heroin.

2. Evaluate State Policies and Strategies
   Evaluate the impact of state policies and strategies that facilitate PDMP use, improve prescribing practices, educate patients, and encourage treatment overdose and response.

3. Evaluate Insurance Mechanisms
   Evaluate the impact of insurer mechanisms and pharmacy benefit manager strategies to change prescribing behavior, inappropriate use of controlled substances, and patient outcomes.

4. Identify Effective Dissemination and Implementation Methods
   Evaluate the adoption, implementation, and impact of clinical practice guidelines, clinical decision supports, and coordinated care plans within primary care practices in health systems.

Identify risk and protective factors

• How can PDMP, coroner, medical examiner, and law enforcement data be used to identify risk and protective factors for drug overdose?

• What are the patterns of co-use of prescription opioids and heroin, injection of opioids, and overdose?

• Does controlled substance prescribing, including opioid pain reliever prescribing, increase risk for heroin overdose?
Evaluate state polices and strategies

• What are the impacts of innovative, untested policies and strategies at the state level on prescribing rates and prescription or illicit drug misuse, abuse, and overdose?

• What are the potential unintended consequences (e.g., encouraging transition from prescription opioid misuse to illicit drug misuse)?

• What are the impacts of harm-reduction strategies on drug overdose?

• Which PDMP strategies (e.g., mandatory registration) enhance use and produce the greatest impacts on prescribing and health outcomes?

• What are the cost implications and cost savings of identified policy changes?

• How can communication campaigns influence physician opioid prescribing and patient opioid use?
Evaluate insurance mechanisms

• Which insurance and pharmacy benefit manager interventions change prescribing behaviors most effectively (e.g., drug utilization review, patient review and restriction, prior authorization)?

• Which of these interventions are most cost-effective?

• What are the effective ways that state public health departments can engage insurers and pharmacy benefit managers to foster adoption of these interventions?
Identify dissemination and implementation methods

• What are the clinical decision support needs, barriers, and effective approaches to promoting guideline adherence in primary care?

• What factors facilitate adoption of coordinated care plans in health systems?

• What are the patient and health system impacts of guideline, clinical decision support, and coordinated care plan implementation?
Example Findings from Extramural Research

Drug and Alcohol Dependence 165 (2016) 1–8

Impact of prescription drug monitoring programs and pill mill laws on high-risk opioid prescribers: A comparative interrupted time series analysis

Hsien-Yen Chang, Tatiana Lyapustina, Lainie Rutkow, Matthew Daubresse, Matt Richey, Mark Faul, Elizabeth A. Stuart, G. Caleb Alexander

The Journal of Pain
Volume 17, Issue 11, November 2016, Pages 1150–1155

Reducing Opioid Misuse: Evaluation of a Medicaid Controlled Substance Lock-In Program

Ashley Cockreil Skinner, Chris Ringwalt, Roboeca B. Naumann, Andrew W. Roberts, Leslie A. Moss, Nidhi Sachdeva, Mark A. Weaver, Joel Farley

An Examination of Claims-based Predictors of Overdose from a Large Medicaid Program

Gerald Cochran, PhD.†‡, Adam J. Gordon, MD, MPH.‡§∥, Wei-Hsuan Lo-Ciganic, PhD. MS, MSPharm.●, Walid F. Gellad, MD, MPH.‡§∥, Winfred Frazier, MD.⊥ Carrolène Lobo, MS.⊥ Chung-Chou H. Chang, PhD.***, Ping Zheng, MD, MS.⊥ and Julie M. Donohue, PhD.‡∥
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.

For more information please contact Centers for Disease Control and Prevention
1600 Clifton Road NE, Atlanta, GA 30333
Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: www.cdc.gov