The Evolution of the Opioid Abuse Epidemic in North America

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RADARS® System

Conflict of Interest Statement

- Most manufacturers of prescription opioids or stimulants subscribe to RADARS System.
- RADARS System is the property of Denver Health and Hospital Authority, a political subdivision of the State of Colorado.
- Subscribers receive information, but do not participate in development, data collection, or analysis of the data. They do not have access to the raw data.
- Employees are prohibited from personal financial relationships with any company.
Supply of Legal Opioid Analgesics

https://ppsg.medicine.wisc.edu/chart
What is the Problem We Need to Solve?

Filling the Balloon

Person in Pain

Susceptible Person

Recreational Abuser

Abuse of Other Drugs

Intact -> Chewed -> Crushed

Outcomes

Addiction
Overdose
Death
FIGURE 2. Drug overdose deaths* involving opioids,†,§ by type of opioid¶ — United States, 2000–2014

Opioid Overdose Mortality in US is Primarily White, Non-Hispanic

CDC Wonder, analyzed by Kaiser Family Foundation: https://www.kff.org
Mosaic Surveillance of Prescription Drug Abuse

- **Acute Health Events**
- **Poison Center Program**
- **Entering Treatment**
  - Survey of Key Informants’ Patients
- **Opioid Treatment Program**
  - Entering Treatment
- **Survey of Non-Medical Use of Prescription Drugs (NMURx)**
  - Non-Medical Use
- **Drug Diversion Program**
  - Drug Transactions
- **StreetRx Program**
  - Illicit Market Price
- **Web Monitoring Program**
  - Internet Chatter
- **Advanced Users/Targeted Investigations**
  - Researcher & Patients Interacting Directly (RAPID)
Prescription Opioid Abuse is Declining in the US

Hydrocodone & Oxycodone Dominate Rx Opioid Abuse in US

RADARS Poison Center Program
Intentional Abuse Exposures

Per 100,000 population

- Oxycodone
- Fentanyl
- Hydrocodone
- Hydromorphone
- Morphine
- Oxymorphone
- Methadone
- Buprenorphine
- Tramadol
- Tapentadol

CDC
Evolution of Prescription Drug Abuse in US

- WA Rx Guidelines
- National Drug Take Back
- Oxycodone ER Reformulation
- FL
- TIRF
- ER/LA
- HC-APAP
- Tramadol
- CDC Pain Guideline

Evolution of Prescription Drug Abuse in US

- All Other Opioids (per 100,000 population)
- Oxycodone ER (per 10,000 population)
- PDMP Coverage

2003-2017:
- Percent of Population Covered by PDMP
- Rate adjusted for population

- Oxycodone ER
- PDMP
- Other Opioids

CDC Pain Guideline
Potential Effects of Interventions

Emptying the Balloon

- Person in Pain
- Susceptible Person
- Guidelines
- Enforcement
- Recreational Abuser
- Abuse of Other Drugs
- Heroin
- Intact
- Chewed
- Crushed

Outcomes
- OUD
- OD
- Treat

Guidelines

P
D
M
P

Enforcement

Susceptible Person
FIGURE 2. Drug overdose deaths* involving opioids,†,§ by type of opioid¶ — United States, 2000–2014

Most Opioids
Divergence of Heroin and Rx Opioids - 2008

A National Poison Data System and Poison Center Program, Intentional Abuse

Rate of Heroin Use per 100,000 Population

Rate of OxyContin Abuse per 100,000 Population

Release of reformulated OxyContin
Heroin and Other Drugs

Push? Or Pull?

Alcohol

Marijuana

Opioid Abuser

Availability
Cost
Setting

Benzodiazepines
Gabapentanoids
Antipsychotics

Heroin

Rx Opioid

Rx
Ever-Expanding List of Drugs of Abuse

- Opioids (heroin, prescription analgesics, loperamide)
- Stimulants (methamphetamine, cocaine, Adderall, Concerta, synthetic cannabinoids)
- Cannabinoids (marijuana)
- Hallucinogens (LSD, peyote, ketamine)
- Antipsychotics (olanzapine)
- Novel psychoactive substances (NPS) “Designer Drugs”
- Any CNS active drug?
  - Gabapentin, pregabalin
  - Nicotine
Summary

• Prescription opioid abuse peaked 2010-2011 and has subsequently decreased steadily
• Illicit opioid abuse transformed by new distribution methods and is increasing rapidly
• Deaths occur primarily due to fentanyl-laced heroin
• Substance abuse is complex
  – Focusing on one or two agents may produce misleading