Not an Epidemic?
Controversies in Substance Abuse

Richard C. Dart, MD, PhD
Director, Rocky Mountain Poison and Drug Safety, Denver Health
Executive Director, RADARS® System
Professor, University of Colorado School of Medicine
Competing Interests

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The Epidemic of Drug Deaths
Real World Evidence and Triangulation

What Is The Problem?
Drug-Related Deaths Are Increasing

Drug overdose deaths in the U.S.
Annual deaths ending in June of each year below

<table>
<thead>
<tr>
<th>Year</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>68,710</td>
</tr>
<tr>
<td>2020</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>101,260</td>
</tr>
</tbody>
</table>

$1.6 TRILLION in 2020

Note: Chart shows provisional figures. Source: Centers for Disease Control and Prevention.
Problem: Demand for Drugs of Abuse
How Did We Get Here?  
The Federal Narrative

• **1990s**
  • Pharmaceutical companies and pain experts reassured the medical community that patients would not become addicted to opioid pain relievers
  • Health care providers began to prescribe them at greater rates.
  • Increased prescription of opioid medications led to widespread misuse of both prescription and non-prescription opioids before it came clear that these medications could indeed be highly addictive.

• **2017**
  • HHS declared a public health emergency and announced a five point strategy to combat the opioid crisis emphasizing Rx opioids

OxyContin Started It All?

• Dopesick
• "It aims to explore the scandal from the Sacklers down, opening with the development of the drug in the 1980s, to show how greedy bosses and avaricious sales reps were able to hijack the good intentions of doctors all over the country," Wikipedia
• What do the data say?
ER Products Like OC Are Small Fraction of Rx Illicit Drug Supply

RADARS® System Drug Diversion

RADARS® System Drug Diversion

Oxycodone
Hydrocodone
Hydromorphone
Morphine
Methadone
Buprenorphine
Tramadol
Heroin
Oxymorphone
The Role of OxyContin in Opioid Crisis


OxyContin Effect?
What Actually Happened?

• Health care systems and regulation
  • Fifth vital sign, patient “satisfaction,” etc.

• Careless doctors
  • We knew better, but convenience won us over. WILLING TEXT
  • Malicious behavior – pill mills

• Opioid marketing
  • Aggressive, irresponsible

• Insufficient treatment options for Opioid Use Disorder (OUD)

• “Patient demand”
All Measures of **Prescription** Opioid Use Are Decreasing

All Prescription Opioids, Individually or Combined

- Acute Health Effects ↓
- Substance Use Treatment ↓
- Drug Diversion ↓
- Population Survey ↓
- Street Price ↓
- Web Discussion ↓
- Mortality ↓

HOW CAN WE HAVE DECREASING PRESCRIPTION OPIOID ABUSE, BUT INCREASING DEATHS?
Drug Overdose Deaths are Dominated by Synthetic Opioids

- Opioids
- Synthetic Opioids excl methadone
- Psychostimulants
- Cocaine
- Natural & Semisynth
- Heroin

COVID
All Measures of Illicit Fentanyl Use Are Increasing

The Role of “Counterfeit” Drugs
Drug Diversion Program – Increase in “Oxycodone” Cases

[Graph showing the increase in oxycodone and other known IR oxycodone cases from 2016 to 2023, with a notable increase post-COVID.]
Nonmedical Use is Increasing Slowly, but Mortality is Increasing Rapidly

Total Nonmedical Use of Psychotropics

- With Cannabis
- W/O Cannabis

National Survey of Drug Use and Health

Opioid-Related Mortality

NVSS, CDC

Nonmedical Use is Increasing Slowly, but Mortality is Increasing Rapidly

Population (millions)

- Total Nonmedical Use of Psychotropics
- Opioid-Related Mortality

National Survey of Drug Use and Health

NVSS, CDC
Demand and Supply
It’s Not the Drug
• As a recovering substance abuser, I know that no pharmaceutical giant ever pushed a pill down my throat. I did it myself. Now I’m beginning to discover why.

Drugs are not my problem.
Reality is my problem.
Drugs are my solution.

Russell Brand
### Drug Exposure

**Nicotine - Alcohol – Cannabis – Etc.**

#### Polysubstance Abuse

<table>
<thead>
<tr>
<th>Opioid</th>
<th>Sedative/Hypnotics</th>
<th>Antipsychotic</th>
<th>GABAergic</th>
</tr>
</thead>
</table>
| - Heroin/Fentanyl  
- Designer opioids  
- Rx analgesics  
- Loperamide | - Alprazolam  
- Diazepam  
- Designer drugs  
- Z-Drugs | - Quetiapine  
- Olanzapine | - Pregabalin  
- Gabapentin |

<table>
<thead>
<tr>
<th>Stimulant</th>
<th>Hallucinogen</th>
<th>NPS/Synthetic</th>
</tr>
</thead>
</table>
| - Cocaine  
- Amphetamine  
- Methylphenidate  
- Designer drugs | - Ketamine  
- LSD  
- Psilocybin | - Mephedrone  
- Cathinones  
- Synth Cann’oids |

#### Risk Factors

- Physical Abuse
- Trauma
- Genetics

- Family Dysfunction
- Emotional Abuse
- Isolation

Move to POLYSUBSTANCE ABUSE
Supply and Demand

• Supply generally increases to meet demand
  • Why is demand for drugs so high in the United States?
  • And what will that supply look like?

• Demand Reduction
  • Buprenorphine
  • Methadone
  • Primary reduction?
What Does the Future Hold?
RADARS System, Rx Stimulant Rates, 2008 - 2020

Poison Center Program

Drug Diversion Program

Cases per 100,000 population


Amphetamine
Methylphenidate

Amphetamine
Methylphenidate
Stimulants - Increasing Mortality over Time

Mortality related to medical stimulants is rising rapidly

Black J, et al. Association of Medical Stimulants With Mortality in the US From 2010 to 2017
3 Million Adults Have Used Kratom, NMURx, 2018-2019

Kratom Abuse Profile More Severe Than Prescription Opioids

Nonmedical Use of Loperamide (Immodium) in UK and US, NMURx, 2017

Increasing Diversion of Nonscheduled Psychoactive Prescription Medications

Kurtz SP, et al. Pharmacoepidemiol Drug Safety, 2019
MDMA-assisted Therapy for Severe PTSD

https://doi.org/10.1038/s41591-021-01336-3
DRUG DEVELOPMENT SNAPSHOT

- 113 CLINICAL TRIALS FOR MDMA
- 99 CLINICAL TRIALS FOR PSILOCYBIN
- 29 CLINICAL TRIALS FOR LYSERGIC ACID DIETHYLAMIDE (LSD)

Source: Clinicaltrials.gov, Accessed 2/16/22; 5/16/22
Psychedelic Module

- In 2020, 2.6% of people aged 12+ (or 7.1M people) used hallucinogens in the past year.
- 1.4M people initiated hallucinogen use in the past year, including 251,000 adolescents.

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**Figure 9. Past Year Illicit Drug Use: Among People Aged 12 or Older; 2020**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Number of Past Year Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana</td>
<td>49.6M</td>
</tr>
<tr>
<td>Rx Pain Reliever Misuse</td>
<td>9.3M</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>7.1M</td>
</tr>
<tr>
<td>Rx Tranquilizer or Sedative Misuse</td>
<td>6.2M</td>
</tr>
<tr>
<td>Cocaine</td>
<td>5.2M</td>
</tr>
<tr>
<td>Rx Stimulant Misuse</td>
<td>5.1M</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>2.5M</td>
</tr>
<tr>
<td>Inhalants</td>
<td>2.4M</td>
</tr>
<tr>
<td>Heroin</td>
<td>902,000</td>
</tr>
</tbody>
</table>

**Figure 21. Past Year Initiates of Substances: Among People Aged 12 or Older; 2020**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Past Year Initiates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>4.1M</td>
</tr>
<tr>
<td>Cigarettes</td>
<td>1.3M</td>
</tr>
<tr>
<td>Marijuana</td>
<td>2.6M</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>1.4M</td>
</tr>
<tr>
<td>Rx Pain Reliever Misuse</td>
<td>1.2M</td>
</tr>
<tr>
<td>Rx Tranquilizer Misuse</td>
<td>950,000</td>
</tr>
<tr>
<td>Rx Stimulant Misuse</td>
<td>734,000</td>
</tr>
<tr>
<td>Inhalants</td>
<td>678,000</td>
</tr>
<tr>
<td>Cocaine</td>
<td>489,000</td>
</tr>
<tr>
<td>Rx Sedative Misuse</td>
<td>343,000</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>153,000</td>
</tr>
<tr>
<td>Heroin</td>
<td>103,000</td>
</tr>
</tbody>
</table>

2020 NSDUH Annual National Report | CBHSQ Data (samhsa.gov)

Note: category of hallucinogens includes LSD, PCP, peyote, mescaline, psilocybin, MDMA, ketamine, DMT, and Salvia divinorum.
Summary

• Opioid deaths are still rising
  - Mainly due to synthetic opioid analog
  - Counterfeit drugs rising
  - Illicit fentanyl continues to rise
• Most patients misuse more than one drug
• Most deaths involve more than one drug
• On the horizon: stimulants, OTCs, antipsychotics, psychedelics
Questions?

Richard.Dart@rmfps.org

www.RADARS.org