Competing Interests

RADARS® System is the property of The Denver Health and Hospital Authority (DHHA), a political subdivision of the State of Colorado.

RADARS® System is supported by subscriptions from pharmaceutical manufacturers, government and nongovernment agencies for surveillance, research, and reporting services. No subscriber participated in the conception, analysis, drafting, or review of this presentation.
Deaths from Substance Use Disorders, Worldwide

Mortality from nearly all drugs is increasing

Source: IHME, Global Burden of Disease (2019)  
OurWorldInData.org/drug-use ● CC BY
US is Leader in Substance Misuse and Abuse

Source: IHME, Global Burden of Disease (2019)
Note: Tobacco smoking is not included. Due to the widespread under-diagnosis, these estimates use a combination of sources, including medical and national records, epidemiological data, survey data and meta-regression models.

OurWorldInData.org/drug-use • CC BY
Taiwan: ED Visits Due to New Psychoactive Substances and Other Illicit Drugs

- Methamphetamine is highest
- Ketamine remarkable high
- Heroin is real?
- Is mortality Increasing?

![Diagram showing drug visits](image_url)
Many Drugs Contribute to Drug-Related Mortality, US

What drives such rapid and also long-term expansion?

An Epidemic of Drug Deaths
Prescribing of Rx Opioids Decreasing in US, 2010 - 2021

Source: IQVIA™ US-Based Longitudinal Prescription Data
Rx Opioid Use in Patients Entering Treatment is Decreasing
RADARS System Treatment Center Programs, 2012 - 2021

Endorse Per 100,000 population

Oxycodone, hydrocodone, hydromorphone, morphine, tramadol

COVID

Oxycodone
Fentanyl
Hydrocodone
Hydromorphone
Morphine
Methadone
Buprenorphine
Tapentadol

Non-Rx Fentanyl
All Measures of Prescription Opioid Use in US Are Decreasing


All Prescription Opioids, Individually or Combined

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

SUBSTANCE ABUSE
Drug-Related Deaths Are Increasing in US

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

2015: 45,000
2016: 50,000
2017: 55,000
2018: 60,000
2019: 68,710
2020: 80,000
2021: 101,260

Note: Chart shows provisional figures. Source: Centers for Disease Control and Prevention.
HOW CAN WE HAVE DECREASING PRESCRIPTION OPIOID ABUSE, BUT INCREASING DEATHS?
Drug Overdose Deaths in United States
Illicit Drug Use = “Russian Roulette”

A potentially lethal game of chance in which a player places a single bullet in a revolver, spins the cylinder (so location of bullet is unknown), places the muzzle against the head or body and pulls the trigger. If the loaded chamber aligns with the barrel, the weapon will fire, killing or severely injuring the player.
The Role of “Counterfeit” Drugs
Drug Diversion Program – Increase in Oxycodone Cases

Invest. Opened Per 100,000 population

- Other oxycodone
- Other known IR oxycodone

COVID

Real
Fake
Fake
Why Do People Use Unknown Drugs? 

Role of Demand and Supply
As a recovering substance abuser, I know that no pharmaceutical giant ever pushed a pill down my throat. I did it myself.

Drug Exposure
Nicotine - Alcohol – Cannabis – Etc.

Risk Factors
Family Dysfunction
Emotional Abuse
Isolation

Risk Factors
Physical Abuse
Trauma
Genetics

Polysubstance Abuse

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

Russell Brand
All Measures of Illicit Fentanyl Use Are Increasing

Non-Rx Fentanyl

Acute Health Effects

Substance Use Treatment

Drug Diversion

Population Survey

Street Price

Web Discussion

Mortality
What Does the Future Hold?
RADARS System, Rx Stimulant Rates, 2008 - 2020

### Poison Center Program

- **Amphetamine**
- **Methylphenidate**

### Drug Diversion Program

- **Amphetamine**
- **Methylphenidate**

Cases per 100,000 population
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

Endorsed by User (%)

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
DRUG DEVELOPMENT SNAPSHOT

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

Source: Clinicaltrials.gov, Accessed 2/16/22; 6/16/22

Related Article:

FDA Calls Psychedelic Psilocybin a ‘Breakthrough Therapy’ for Severe Depression
By Navina Sanipala published November 26, 2019
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

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 opioids like fentanyl
  • 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, hallucinogens
• How can we decrease demand?
Questions?

Richard.Dart@rmpds.org

www.RADARS.org