A New Frontier: Prescription Drug Abuse Beyond Opioids
A New Frontier: Prescription Drug Abuse Beyond Opioids

Richard C. Dart, Executive Director RADARS System
Registrants n=235

- Government 82
- Academic 57
- Industry/Pharma 36
- Other 60
RADARS System
Scientific Advisory Board

Principal Investigators

Theodore J. Cicero, PhD
Washington University in St Louis

Steven P. Kurtz, PhD
Nova Southeastern University

Mark W. Parrino, MPA
American Association for the Treatment of Drug Dependence

Richard C. Dart, MD, PhD
Rocky Mountain Poison & Drug Safety, Denver Health

Substance Abuse Experts

Sidney Schnoll, MD, PhD
Pinney Associates, Inc.

George Woody, MD
University of Pennsylvania

Epidemiology/Biostatistics

Nabarun Dasgupta, MPH
UNC in Chapel Hill
Rocky Mountain Poison & Drug Safety, Denver Health

Law Enforcement

John Burke
Pharmaceutical Diversion Education, Inc.; International Health Facility Diversion Association
NEWS FROM RADARS SYSTEM
Latest RADARS System Article:
The Impact of the Prescription Opioid Epidemic on Young Children

Deaths per 1000 Poison Center cases

- Hydrocodone: 0.6
- Oxycodone: 0.6
- Buprenorphine: 0.6
- Morphine: 0.6
- Methadone: 93.6

RADARS System – 108 Publications in Scientific Literature

RADARS® System Publications, 2006 - 2019

Cumulative Citations
Number of Citations Annually
Number of Publications Annually
Trends in Annual Opioid Prescribing Rates

Rx Dispensed

![Graph showing trends in annual opioid prescribing rates.](chart)

- Total Opioid Rx: ↓ 34%
- High Dose Opioid Rx: ↓ 47%

Source: IQVIA Transactional Data Warehouse
Trends in Annual Opioid Prescribing Rates

Source: IQVIA Transactional Data Warehouse
Trends in Annual Opioid Prescribing Rates

Source: IQVIA Transactional Data Warehouse
Poison Center Program
Intentional Abuse, 2006 - 2019

Per 100,000 population

oxycodone, hydrocodone, hydromorphone, morphine, tramadol
Poison Center Program
Intentional Abuse, 2006 - 2019

Per 100,000 population

oxycodone, hydrocodone, hydromorphone, morphine, tramadol
Drug Diversion Program
2006 - 2019

Invest. Opened Per 100,000 population

oxycodone, hydrocodone, hydromorphone, fentanyl, morphine, tramadol
Drug Diversion Program
2006 - 2019

Invest. Opened Per 100,000 population

oxycodone, hydrocodone, hydromorphone, fentanyl, morphine, tramadol
Treatment Center Programs Combined
2008 - 2019

Endorse. Per 100,000 population

oxycodone, hydrocodone, hydromorphone, morphine, tramadol
Endorse. Per 100,000 population

oxycodone, hydrocodone, hydromorphone, morphine, tramadol
RADARS System
Prescription Stimulant Rates, 2008 - 2019

Poison Center Program

Drug Diversion Program

Cases per 100,000 population

Amphetamine

Methylphenidate

2019


The Opioid Epidemic

Figure 3. Age-adjusted drug overdose death rates involving opioids, by type of opioid: United States, 1999–2018

1Significant increasing trend from 1999 through 2006 and 2013 through 2018, with different rates of change over time, $p < 0.05$.
2Significant increasing trend from 1999 through 2018, with different rates of change over time, $p < 0.05$.
3Significant increasing trend from 2005 through 2015, with different rates of change over time, $p < 0.05$.

National Vital Statistics System, Centers for Disease Control, 2019
Drug Exposure
Nicotine - Alcohol – Cannabis – Etc.

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Dysfunction</td>
<td>Physical Abuse</td>
</tr>
<tr>
<td>Emotional Abuse</td>
<td>Trauma</td>
</tr>
<tr>
<td>Isolation</td>
<td>Genetics</td>
</tr>
</tbody>
</table>

Polysubstance Abuse

- Opioid
  - Heroin/Fentanyl
  - Designer opioids
  - Rx analgesics
  - Loperamide
- Sedative/Hypnotics
  - Alprazolam
  - Diazepam
  - Designer drugs
  - Z-Drugs
- Antipsychotic
  - Quetiapine
  - Olanzapine
- GABAergic
  - Pregabalin
  - Gabapentin
- Stimulant
  - Cocaine
  - Amphetamine
  - Methylphenidate
  - Designer drugs
- NPS/Synthetic
  - Mephedrone
  - Cathinones
  - Synth Cann'oids
- Hallucinogen
  - Ketamine
  - LSD
  - Psilocybin

Risk Factors
- Family Dysfunction
- Emotional Abuse
- Isolation
### Drug Exposure

Nicotine - Alcohol – Cannabis – Etc.

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Dysfunction</td>
<td>Physical Abuse</td>
</tr>
<tr>
<td>Emotional Abuse</td>
<td>Trauma</td>
</tr>
<tr>
<td>Isolation</td>
<td>Genetics</td>
</tr>
</tbody>
</table>

#### Polysubstance Abuse

<table>
<thead>
<tr>
<th>Drugs</th>
<th>Reality</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drugs are not my problem.</td>
<td>Reality is my problem.</td>
<td>Drugs are my solution.</td>
</tr>
</tbody>
</table>

**Russell Brand**

Drugs are not my problem.  
Reality is my problem.  
Drugs are my solution.
Drug Exposure
Nicotine - Alcohol – Cannabis – Etc.

Risk Factors
- Family Dysfunction
- Emotional Abuse
- Isolation

Risk Factors
- Physical Abuse
- Trauma
- Genetics

Polysubstance Abuse

Opioid
- Heroin/Fentanyl
- Designer opioids
- Rx analgesics
- Loperamide

Sedative/Hypnotics
- Alprazolam
- Diazepam
- Designer drugs
- Z-Drugs

Antipsychotic
- Quetiapine
- Olanzapine

GABAergic
- Pregabalin
- Gabapentin

Stimulant
- Cocaine
- Amphetamine
- Methylphenidate
- Designer drugs

Hallucinogen
- Ketamine
- LSD
- Psilocybin

NPS/Synthetic
- Mephedrone
- Cathinones
- Synth Cann’oids
3 Million Adults Have Used Kratom, NMURx Program, 2018-2019

Estimated prevalence of lifetime Kratom use is 1.3% = 3,353,624 adults

Estimated prevalence of lifetime Kratom use is 1.3% = 3,353,624 adults

Kratom Abuse Profile Worse Than Prescription Opioids

Prevalence Rate of Past Month use of Non-opioid Drugs
Survey of Key Informant Patients (SKIP) Program, 2011-2018

Note. q = quarter; Rx = prescription. Trend lines indicate the prevalence rates across the entire study period.

*Data first made available in 2015q1,2.

FIGURE 2—The Prevalence Rates of Past-Month Use of Nonopioid Drugs Among the Survey of Key Informants’ Patients Sample in the First Analysis Period (Second Half of 2011) and the Final Analysis Period (First Half of 2018): United States

Cicero T, et al. Polysubstance Use: A Broader Understanding of Substance Use During the Opioid Crisis. AJPH 2020
Nonmedical Use of Loperamide (Immodium) in UK and US, NMURx Program, 2017

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

Why?

- Tx Med Condit
- Get High
- Come Down
- Withdraw
- Other

How?

- Swallow
- Chew/Swallow
- Dissolve Mouth
- Inhaled
- IV
- Other

UK

US

Increasing Diversion of Nonscheduled Psychoactive Prescription Medications in the United States, 2002 to 2017

Kurtz SP, et al. Pharmacoepidemiol Drug Safety, 2019
Global Mosaic of Nonmedical Use: 10,000 foot view
NMURx Program, 2018 Prescription Opioids

Nonmedical Use by Country

Endorse per 100,000 Population Weighted Estimate

- Opioids
- Stimulants
- Sedatives
- GABA Drugs
Summary

• Worldwide pandemic of substance abuse
• Prescription and non-prescription drugs that are often used in an interchangeable manner
  – Cost
  – Availability
• Mortality is rising
• Attempts at reducing supply have failed
• How do we reduce demand?
A New Frontier: Prescription Drug Abuse Beyond Opioids

Richard C. Dart, MD, PhD

Executive Director, RADARS® System, Rocky Mountain Poison & Drug Safety, Denver Health and Hospital Authority
President, Canadian Consumer Product and Pharmaceutical Safety Inc.

Vital Statistics Mortality Data

Margaret Warner, PhD

Senior Epidemiologist, National Center for Health Statistics, Centers for Disease Control and Prevention
One Drug? Two Drugs? Polydrug Mortality Is More Common Than We Think

Joshua C. Black, PhD

Associate Research Scientist, RADARS® System, Rocky Mountain Poison & Drug Safety, Denver Health and Hospital Authority

Key Priorities for FDA’s Controlled Substance Program

Marta Sokolowska, PhD

Associate Director for Controlled Substances, Office of the Center Director, Center for Drug Evaluation & Research, Food & Drug Administration
Pharmacoepidemiologic Research on Drugs of Abuse

Judy A. Staffa, PhD, RPh

Associate Director for Public Health Initiatives, Office of Surveillance & Epidemiology, Center for Drug Evaluation & Research, Food & Drug Administration

How Low Can You Go: Solving the Challenge of Low Endorsements in the General Population

Joshua C. Black, PhD

Associate Research Scientist, RADARS® System, Rocky Mountain Poison & Drug Safety, Denver Health and Hospital Authority
Real World Evidence, Real World Solutions

John Schwarz, PhD

Director of Biostatistics, RADARS® System, Rocky Mountain Poison & Drug Safety, Denver Health and Hospital Authority

Nabarun Dasgupta, MPH, PhD

Core Faculty, University of North Carolina in Chapel Hill
Consultant – RADARS® System

Panel Discussion and Summary
End