The European Mosaic: Prescription Drug Misuse Across Borders

The Mosaic Approach to Post-marketing Surveillance

Richard C. Dart, MD, PhD
Executive Director, RADARS System, Denver Health
Professor, University of Colorado
Competing Interests

• The RADARS System is the property of Denver Health and Hospital Authority, a political subdivision of the State of Colorado
  – Employees are prohibited from personal financial relationships with any company
• Many manufacturers of prescription opioids subscribe to RADARS
  – Subscribers receive information, but do not participate in developing the System, data collection, or analysis
  – Subscribers do not have access to the raw data
  – Subscribers may not use RADARS data for promotional purposes
The Problem

WHO: Total Opioid Consumption (Morphine Equivalence Mg/Capita), 1980-2015
Drugs and alcohol are not my problem, reality is my problem, drugs and alcohol are my solution.

Russell Brand: My Life Without Drugs

Opioids
- Heroin
- Fentanyl
- Rx analgesics
- Loperamide

Benzodiazepines
- Alprazolam
- Diazepam

Stimulants
- Cocaine
- Amphetamine
- Methylphenidate

Antipsychotics
- Quetiapine
- Olanzapine

Hallucinogens
- Ketamine
- LSD

AEDs
- Pregabalin
- Gabapentin

NPS/synthetics
- Mephedrone
- Cathinones
- Synth Cann’oids

Alcohol - Nicotine
↓
Marijuana
↓
Polysubstance Abuse

Family Dysfunction
Rape
Physical Abuse
Mental Illness
Genes
Trauma
Isolation
Challenges of Postmarketing Surveillance of Prescription Drugs

• All the usual challenges of postmarketing surveillance +
  – Regulators’ focus on intended use of a drug
    • Unexpected Adverse Events
  – Not Expected Events from Unusual and Inappropriate Uses of the Drug!

• Hidden nature of substance abuse
  – Illegal behaviors
  – Anonymity and Confidentiality

• Product identification
Mosaic Surveillance
Rx Drug Abuse Decreasing in US Since 2011

United States, RADARS Poison Center Program
Intentional Abuse, 2006 - 2018

Per 100,000 population

oxycodone, hydrocodone, hydromorphone, fentanyl, morphine, tramadol
United States, RADARS Drug Diversion Program
Intentional Abuse, 2006 - 2018

Per 100,000 population

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

oxycodone, hydrocodone, hydromorphone, fentanyl, morphine, tramadol
Abuse Deterrent Formulations - Oxycodone ER, Drug Diversion Program, 2009 - 2015

250 law enforcement investigators in 49 states

Reformulation

Separation occurs in first 18 months
ER Opioids Caused the Opioid Epidemic?

Poison Center

Drug Diversion

Treatment Centers
StreetRx: If the Prescription Drug Market is Decreasing, Where is the Drug Coming From?

- 4 months: 67 reports of Rx oxycodone from Canada reported to US StreetRx website.
  - 51 (76%) confirmed drug was acquired in the US and used in Canada.
  - 9 (13%) - the drug was acquired in Canada but used in the US.
  - 7 (10%) did not report country

- 62 (92.5%) reports of crushable oxycodone products
- 5 (7.5%) reports of OxyNEO, the only difficult to crush (tamper-resistant) oxycodone product in our analysis.
Speakers

• Prescription Drug Misuse in the U.K.
  – David Wood, MD
• Prescription Drug Misuse in Spain
  – Marta Torrens Melich, MD, PhD
• Prescription Drug Misuse in Germany
  – John Schwarz, PhD
• Prescription Drug Misuse in France and Italy
  – Janetta Iwanicki, MD