ICPE: What Have We Learned About the Impact of Policies in North America?

August 30, 2017
Montreal, Canada

Richard C. Dart, MD, PhD
Executive Director, RADARS® System, Denver Health
Professor, University of Colorado School of Medicine
Competing Interest Statement

History
- 2002, launched by Purdue Pharma L.P.
- 2006, independent ownership by Denver Health and Hospital Authority
  - Denver Public Hospital for 150 years
  - State sanctioned independent authority

Conflict of Interest Statement
- Many manufacturers of prescription opioids or stimulants as well as federal agencies 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 developing the System, 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.
Progression of Prescription Opioid Abuse

The Balloon

Intact → Chewed → Crushed

Outcomes
- OUD
- Overdose
- Death

Susceptible Person
- Guidelines
- Person in Pain
- Recreational Abuser
- Abuse of Other Drugs

Person in Pain

Guidelines

Susceptible Person

Recreational Abuser

Abuse of Other Drugs
Progression of Prescription Opioid Abuse

The Balloon

Intact → Chewed → Crushed

Susceptible Person

Person in Pain → Guidelines → PDMP

Recreational Abuser

Abuse of Other Drugs

Heroin

Outcomes

OUD → OD → Treat

Guidelines

PDMP
A Prescriber Needs Several Tools to Treat Chronic Pain

• **Interventions**
  – Training
  – ADF
  – PDMP
  – Urine Drug Testing
  – Law Enforcement

• **Which of these have the most data to support their use?**
A Prescriber Needs Several Tools to Treat Chronic Pain

• Interventions
  – Training
  – ADF
  – PDMP
  – Urine Drug Testing
  – Law Enforcement

[Diagram of flowchart showing interactions between prescriber, person with pain, improper use, proper use, and other modalities.]

PDMP UDT

Training (e.g. REMS)
Screening

Person with Pain

ADF

Improper Use

Proper Use

Prescriber

Other Modalities
Do abuse deterrent opioid formulations work?

Richard C. Dart, MD, PhD; Janetta L. Iwanicki, MD; Nabarun Dasgupta, PhD; Theodore J. Cicero, PhD; Sidney H. Schnoll, MD, PhD

- Does the introduction of an opioid analgesic with abuse deterrent properties result in reduced overall abuse of the drug in the community?
- Analgesics with FDA approved labelling for abuse deterrent properties (hydrocodone, morphine, oxycodone)
- Results categorized using Bradford-Hill criteria.

## Systematic Review

- 45 articles containing original data
- Dart, Iwanicki, Dasgupta, Cicero, Schnoll

### Hill Factor | Description
--- | ---
**Strength (effect size):** | Effect size positive, ranging from 27% to 90% reduction in a measure of abuse.
Consistency (reproducibility): | Strikingly similar results in 3 different countries after reformulation in 2010 (US), 2012 (Canada), 2014 (Australia)
Specificity | Variety of comparators used – all significantly different from reformulated oxycodone ER
Temporality | Reduction in a variety of endpoints after introduction of reformulated oxycodone ER
Plausibility | FDA Categories 1-3
Coherence | All results to date are coherent with Category 1-3 studies

Biological Gradient, Experiment, Analogy: N/A

### Additional Criteria
- Confounding and/or Bias: No plausible alternative explanation for events at 3 different times in 3 different countries
# Systematic Review

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Opioid Analgesic Prescriptions Dispensed in the United States, April 1, 2009 to June 30, 2015

RADARS Opioid Treatment Program
Drugs Used in Past 30 Days, 2009 - 2015

- 115 Substance abuse treatment programs in 37 states

Past Year Nonmedical Use of OxyContin
National Survey Drug Use and Health, 2006–2014

Sydney Medically Supervised Injecting Centre (MSIC), July 2009–August 2014

RADARS Drug Diversion Program
Drugs Involved, past 90 days, 2009 - 2015

• 250 law enforcement investigators in 49 states

Confounding Main Challenge to Interpretation of ADF Data

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

- Rate adjusted for population
- Percent of Population Covered by PDMP

Graph showing trends for:
- Oxycodone ER
- PDMP
- Other Opioids

- CDC Pain Guideline
- Confounding Main Challenge to Interpretation of ADF Data

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Problems with a Reactionary Agenda

• “OxyContin is the Problem”
• “Heroin (fentanyl) is the Problem”
• The core problem is human frailty and susceptibility to opioids (or perhaps to mind altering substances in general).
Until we successfully address that issue, we will be limited to the Whack-a-Mole strategy.
Public Health Strategies

• Reduce demand
  – Healthy communities
  – ADFs
• Reduce supply
  – Appropriate prescribing
  – Prescriber training
• Intervene early
  – ADFs
  – PDMP
  – UDT
  – Substance Abuse Treatment programs
• Remember the patient
THANK YOU