Measuring Interventions to Reduce Prescription Drug Misuse, Abuse, and Diversion

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Overdose, Addiction, and Death

Graph showing trends in sales per kilograms per 10,000 people, deaths per 100,000 people, and treatment admissions per 10,000 people from 1999 to 2010.
Intervention Strategies

• Education
• Tracking & monitoring
  – PDMPs
• Enforcement
• Product innovations
  – Pharmacologic advances
  – Abuse-deterrent abuse-resistant formulations

Data Needed to Assess Interventions

- Up-To-Date
- Specific
  - Formulation
  - Route of administration
  - Geography
- Accounts for drug availability in the community
• Founded in 2001 by Purdue Pharma
• Since 2006, operated by the Rocky Mountain Poison and Drug Center
  – Division of the Denver Health and Hospital Authority
• Independent Scientific Advisory Board
• Monitor over 120 different products
The RADARS® System

Poison Center | Acute Events | Drug Diversion | Criminal Justice
49 Centers | 46 States | 280 investigator | 50 states

Opioid Tx Program (OTP) | Patients in Tx | SKIP | Patients in Tx
73 programs | 33 states | Survey of Key Informant Pts | 125 practices
33 states

College Survey | 6000 students/yr | StreetRx | Users/Buyers
50 States | www.streetrx.com | Crowdsource | 50 states

49 Centers | 46 States | 46 States
Reformulated OxyContin

- August 2010

OxyContin OC

OxyContin OP
Intentional Abuse Cases Down 34%

The RADARS® System Poison Center Program
OxyContin Cases, Intentional Abuse
Population Rates, 4th Quarter 2008 to 4th Quarter 2011

Cases per 100,000 population

- Before Introduction of OxyContin-reformulated
- After Introduction of OxyContin-reformulated
Law Enforcement Cases Down 50%

The RADARS® System Drug Diversion Program
OxyContin Cases Population Rates,
4th Quarter 2008 to 4th Quarter 2011

Cases per 100,000 population

- Before Introduction of OxyContin-reformulated
- After Introduction of OxyContin-reformulated
Street Price Down 18%
Buprenorphine Abuse is Increasing

The RADARS® System SKIP Program
Buprenorphine Abuse Rates per 100,000 Population
1\textsuperscript{st} Quarter 2009 – 1\textsuperscript{st} Quarter 2012
Increase is Due to Single Ingredient Products

The RADARS® System SKIP Program
Percentage Change in Abuse Rates per 100,000 population
1st Quarter 2010 to 1st Quarter 2012
Operation UNITE

• Three-pronged intervention
  – Education
  – Enforcement
  – Treatment
Rise in Abuse Less in Operation UNITE Region

The RADARS® System Poison Center Program
Intentional Abuse Population Rates – All Opioids 2nd Quarter 2006 to 4th Quarter 2011, Percent Change from Baseline
Rise in Abuse is Attenuated in States with PDMPs

* All increases are percent increases per quarter, exponential, adjusted for population and unique recipients of a dispensed drug (URDD)

RADARS® System Summary

• 10 years of data
  • Maximum lag: 3 months
• Rigorous and independent
• Multifaceted (“mosaic”) approach
  • Diversion & illicit sale
  • Addiction
  • Abuse / misuse
  • Medical outcomes
• Product Specificity
  – Over 120 products of interest
Future Development

[Graph showing trends in sales, deaths, and treatment rates from 1999 to 2010]

[Graph showing correlation between methadone-related poison center calls and related deaths, with R^2 = 0.77 and p < 0.0001]
International Initiatives

- Global Poison Center program
- EUROPAD pilot
10 YEARS

Expanding the Horizons of Drug Surveillance