

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

Eric Lavonas, MD

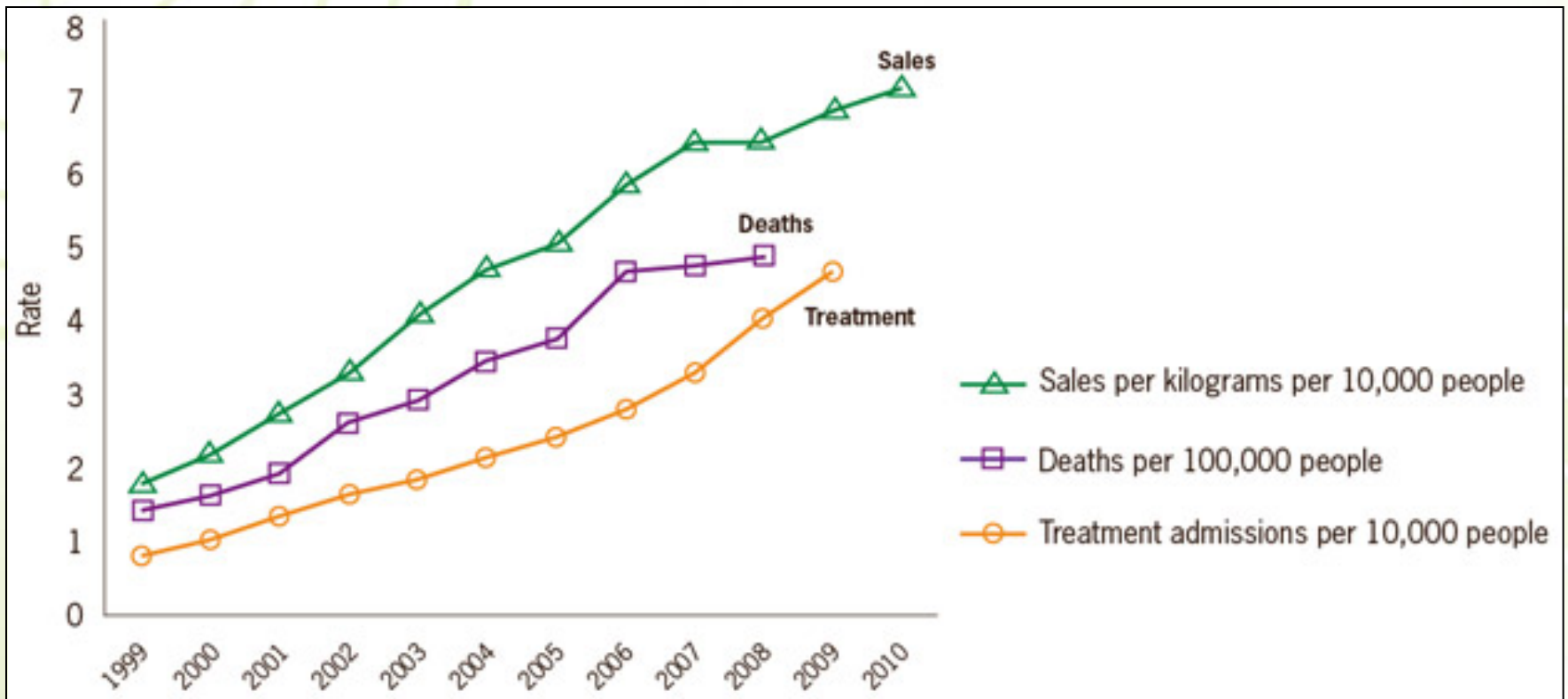
Associate Director

Rocky Mountain Poison and Drug Center

Denver Health & Hospital Authority



Overdose, Addiction, and Death

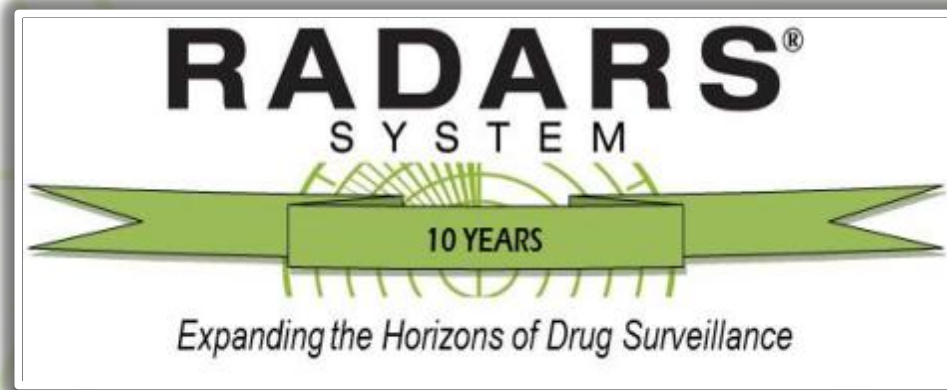


Intervention Strategies

- 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
49 Centers
46 States**

**Drug
Diversion**

**Criminal Justice
280 investigator
50 states**

**Opioid Tx
Program
(OTP)**

**Patients in Tx
73 programs
33 states**

**SKIP
Survey of Key
Informant Pts**

**Patients in Tx
125 practices
50 states**

**College
Survey**

**6000
students/yr
50 States**

**StreetRx
www.streetrx.com**

**Users/Buyers
Crowdsource
50 states**



Reformulated OxyContin

- August 2010



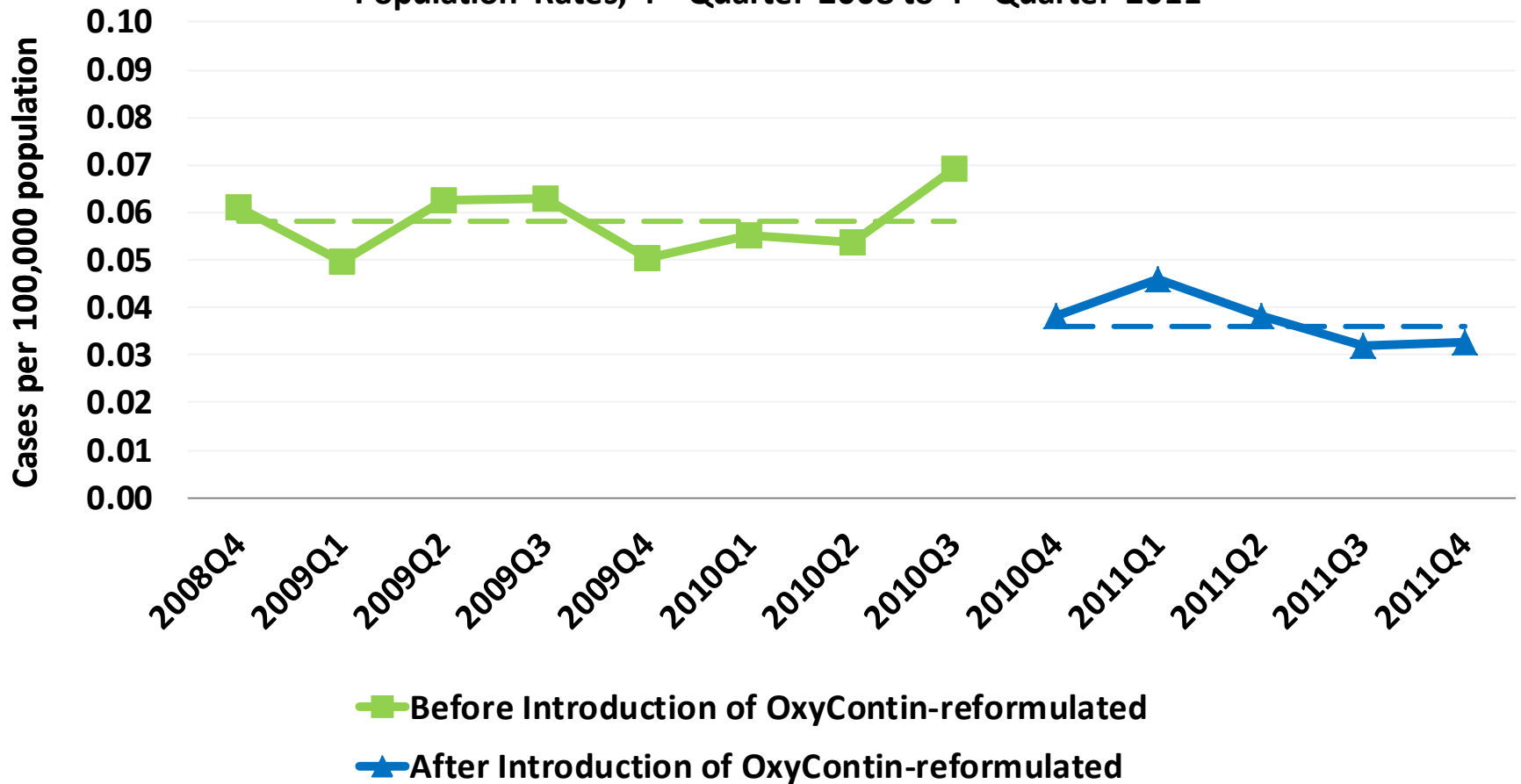
**OxyContin
OC**



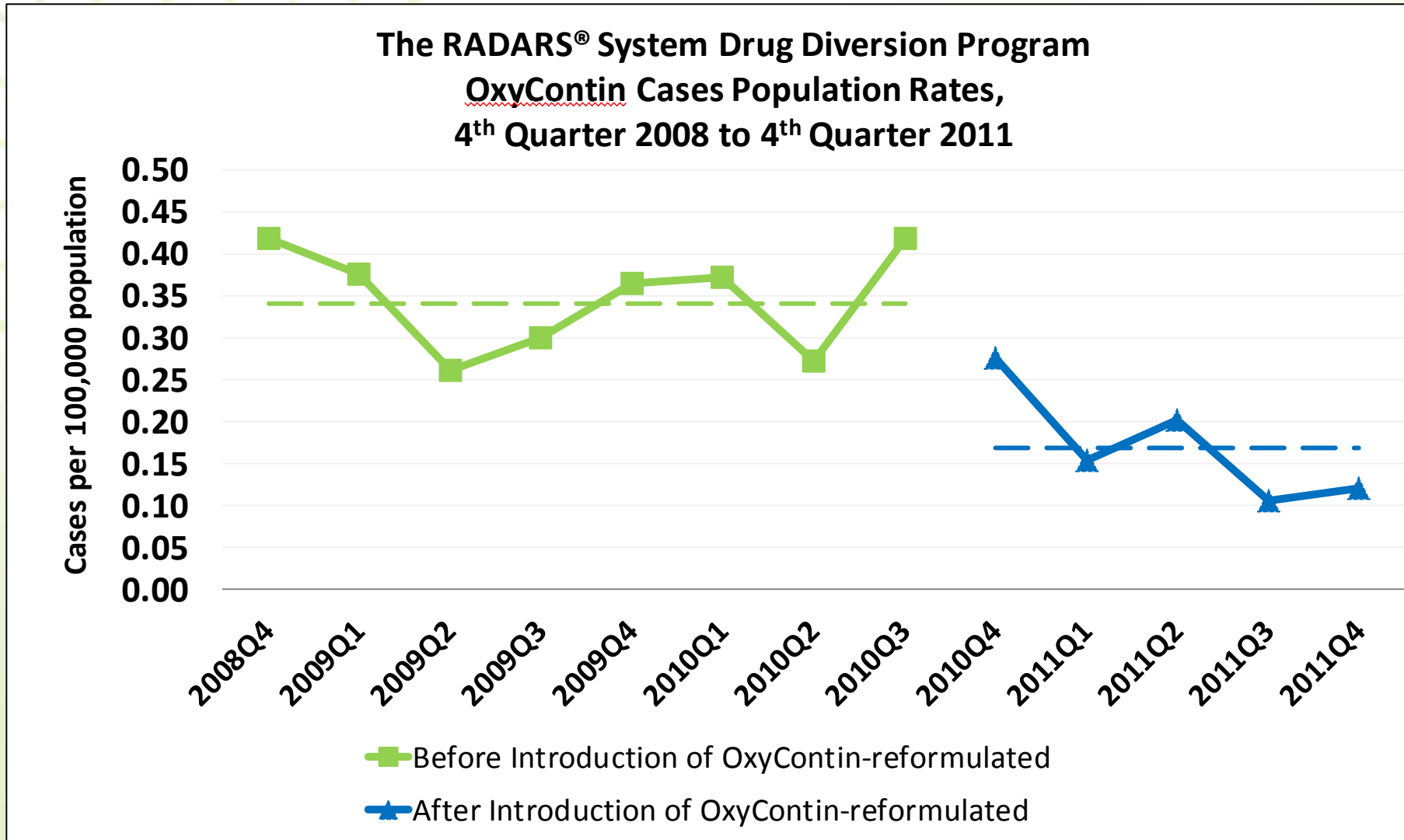
**OxyContin
OP**

Intentional Abuse Cases Down 34%

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

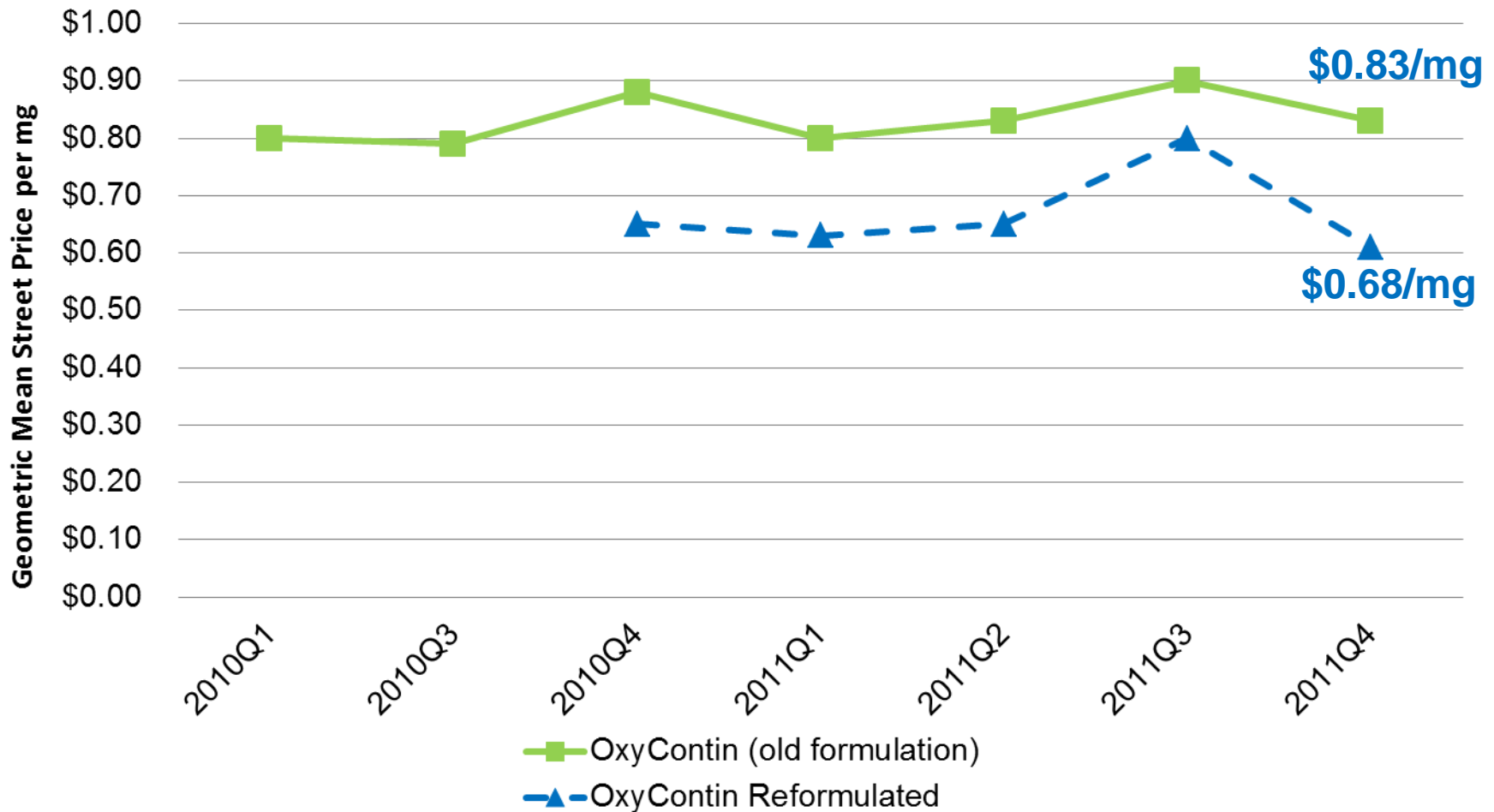


Law Enforcement Cases Down 50%



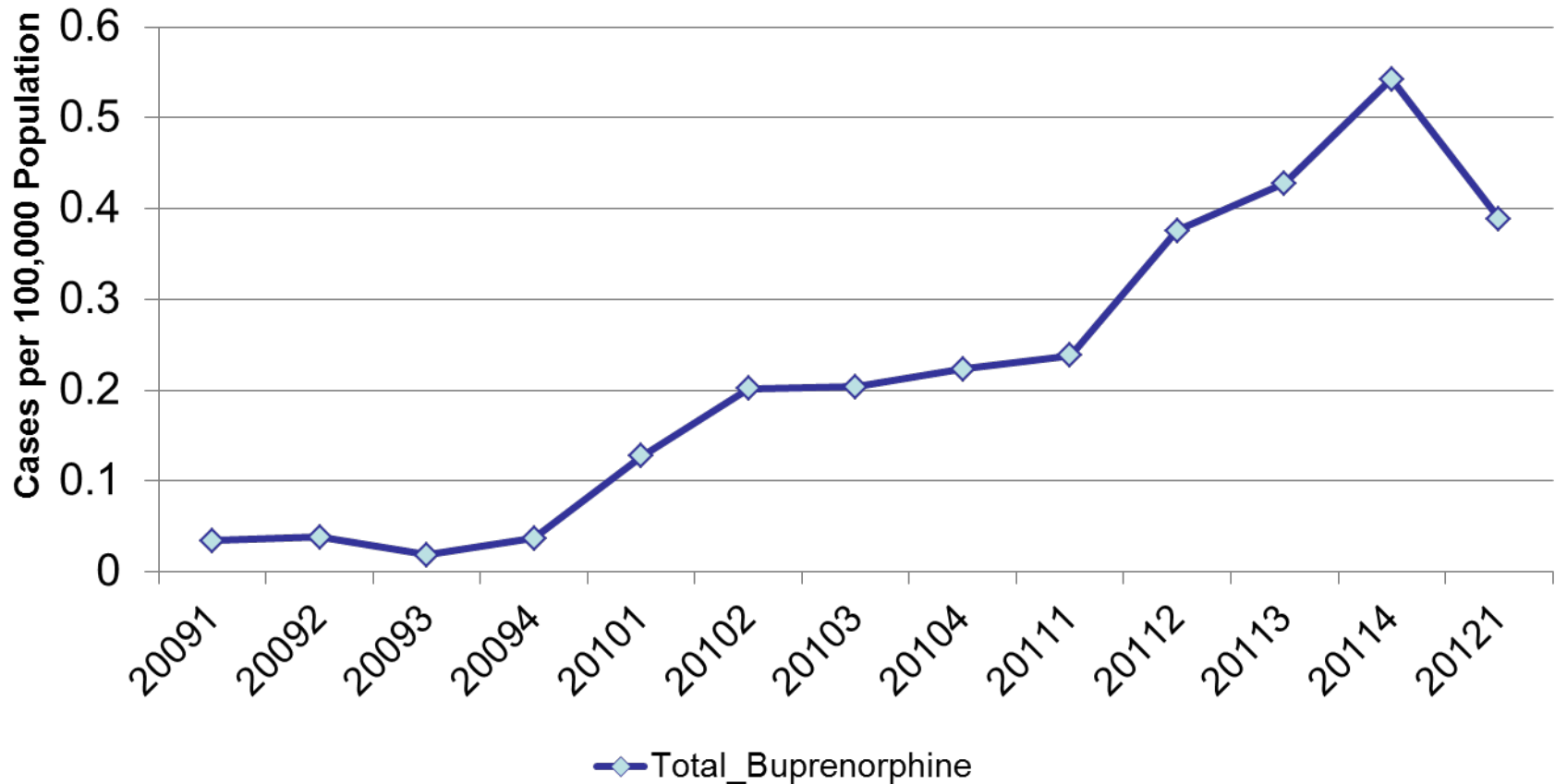
Street Price Down 18%

The RADARS® System Drug Diversion Program
OxyContin Street Price
1st Quarter 2010 to 4th Quarter 2011

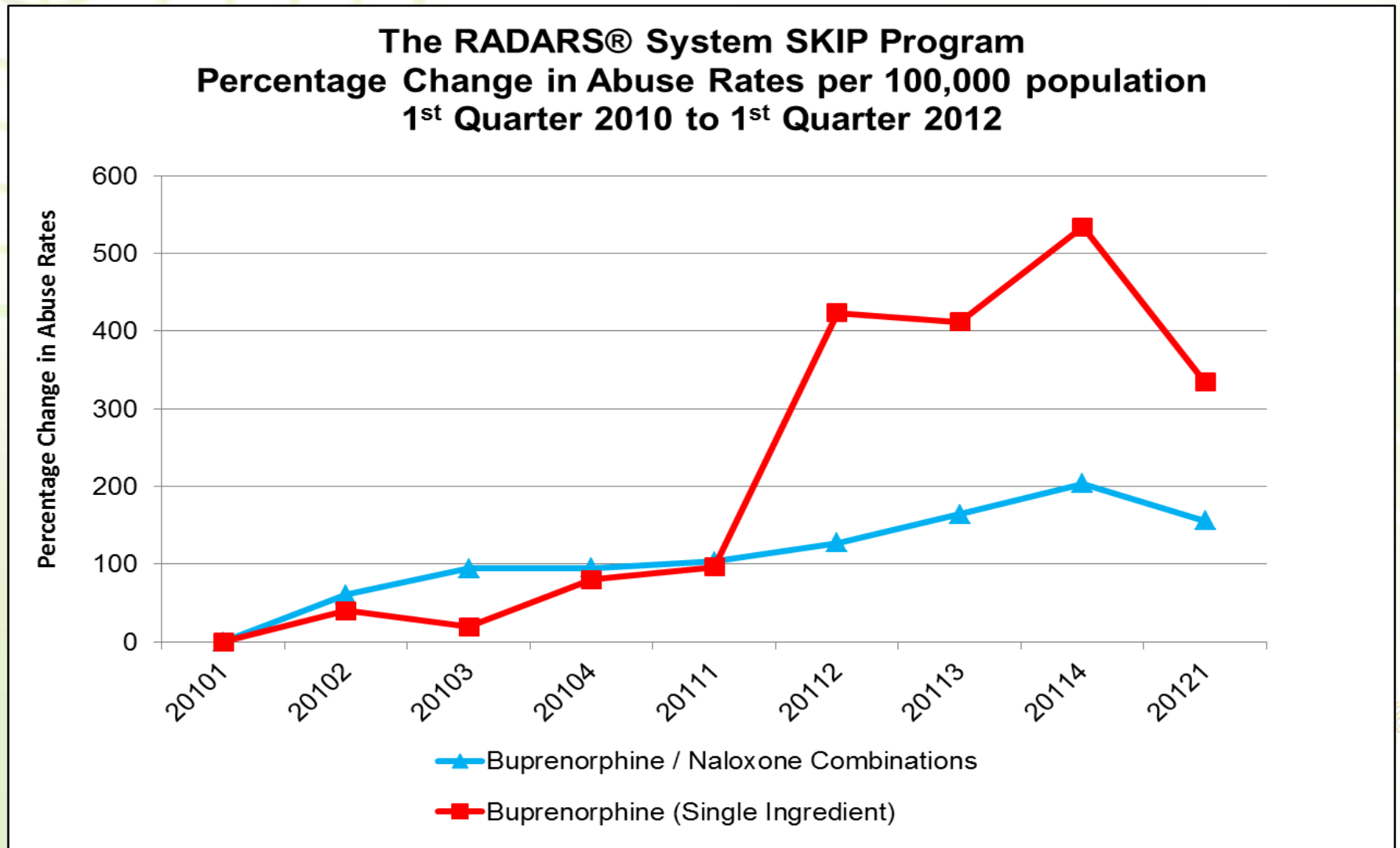


Buprenorphine Abuse is Increasing

The RADARS® System SKIP Program
Buprenorphine Abuse Rates per 100,000 Population
1st Quarter 2009 – 1st Quarter 2012

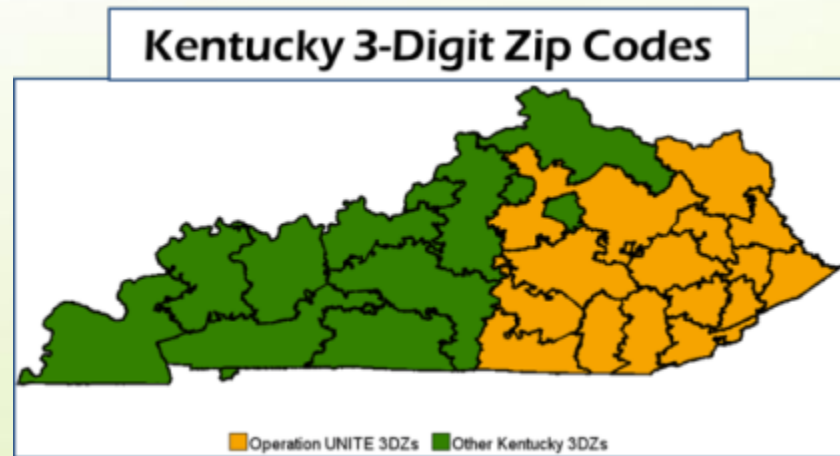


Increase is Due to Single Ingredient Products



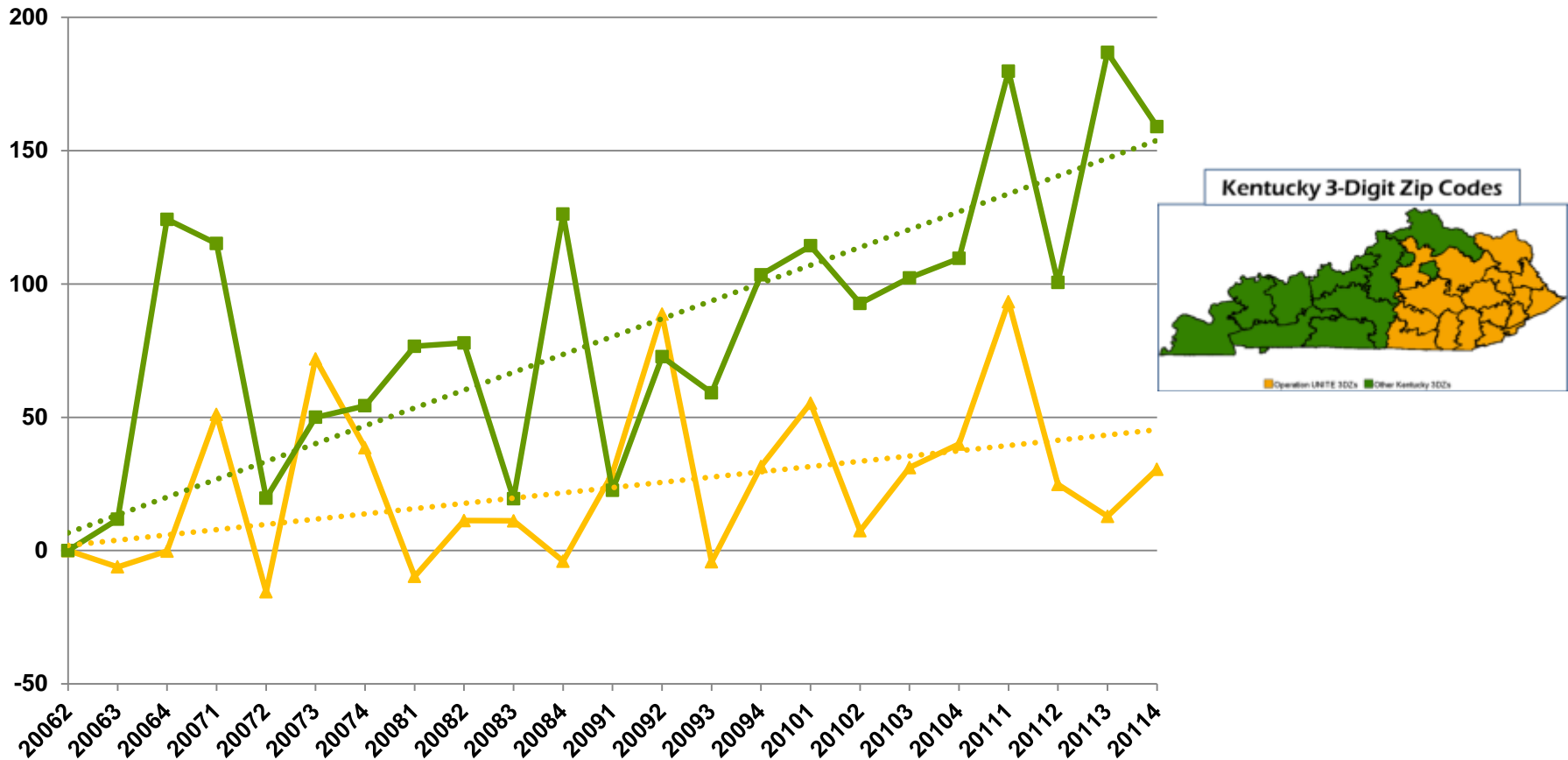
Operation UNITE

- Three-pronged intervention
 - Education
 - Enforcement
 - Treatment

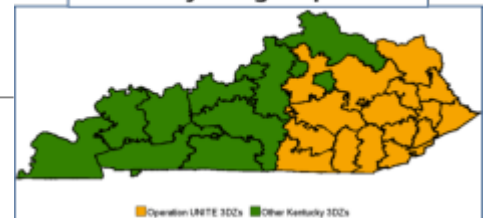


Rise in Abuse Less in Operation UNITE Region

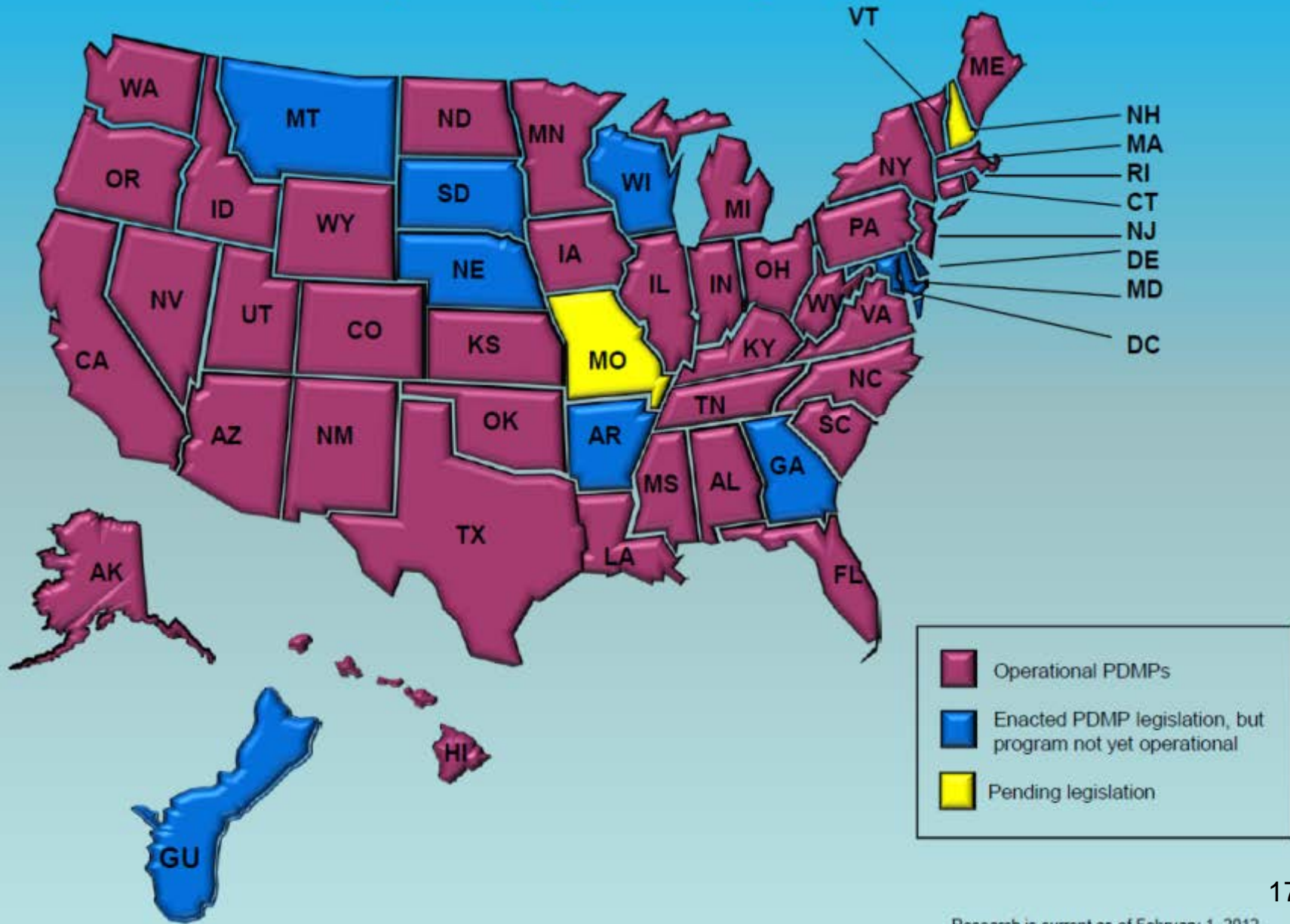
The RADARS[®] System Poison Center Program
Intentional Abuse Population Rates – All Opioids 2nd Quarter 2006 to
4th Quarter 2011, Percent Change from Baseline



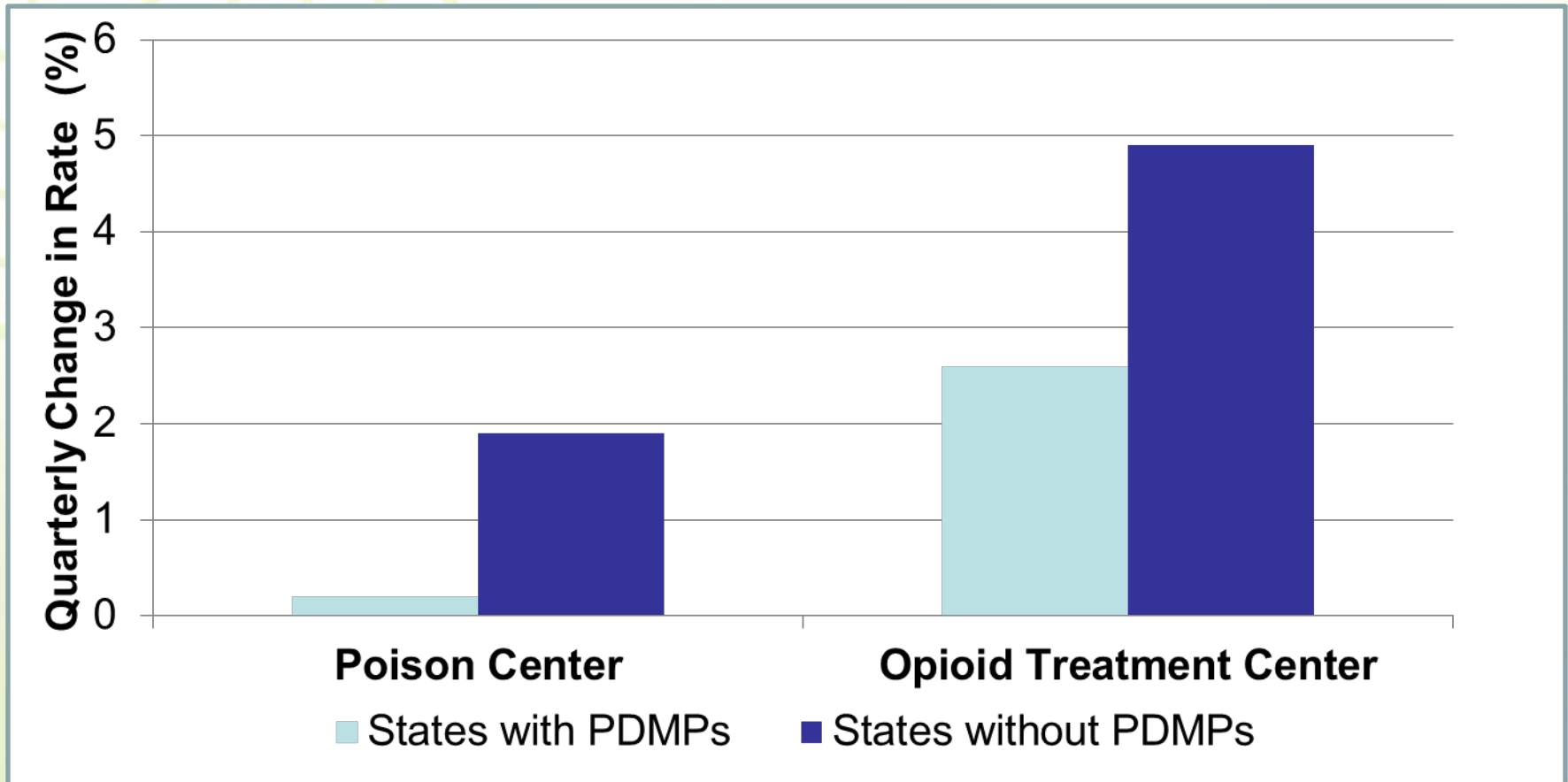
Kentucky 3-Digit Zip Codes



Status of Prescription Drug Monitoring Programs (PDMPs)



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)

Reifler LZ, Droz D, Bailey JE, Schnoll SH, Fant R, Dart RC, Bucher-Bartelson BB. Do prescription monitoring programs impact state trends in opioid abuse / misuse? *Pain Med* 2012; 13:434-42.

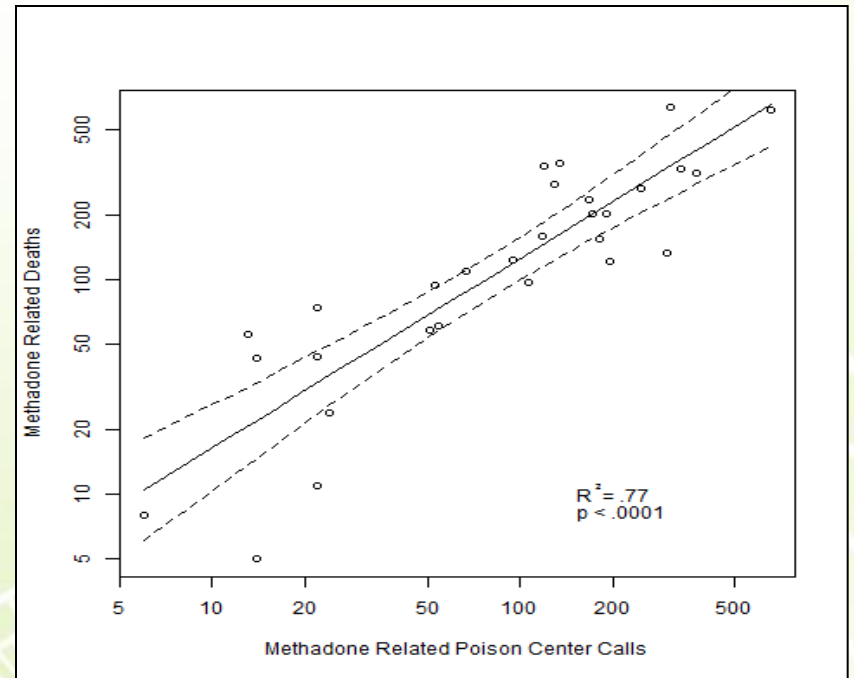
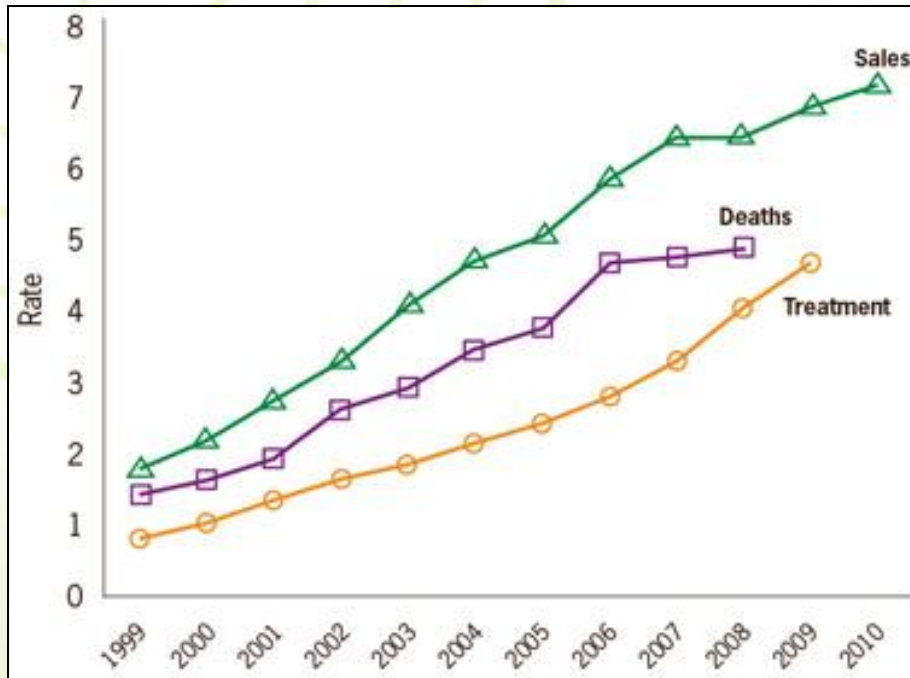


RADARS[®] System Summary

- 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



International Initiatives

- Global Poison Center program
- EUROPAD pilot



RADARS[®] S Y S T E M

10 YEARS

Expanding the Horizons of Drug Surveillance

RADARS SYSTEM 10th ANNIVERSARY
RADARS[®]
SYSTEM