

Interventions in Prescription Opioid Abuse

– Do (or can) Prescription Monitoring Programs Make a Difference?



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

Competing Interests

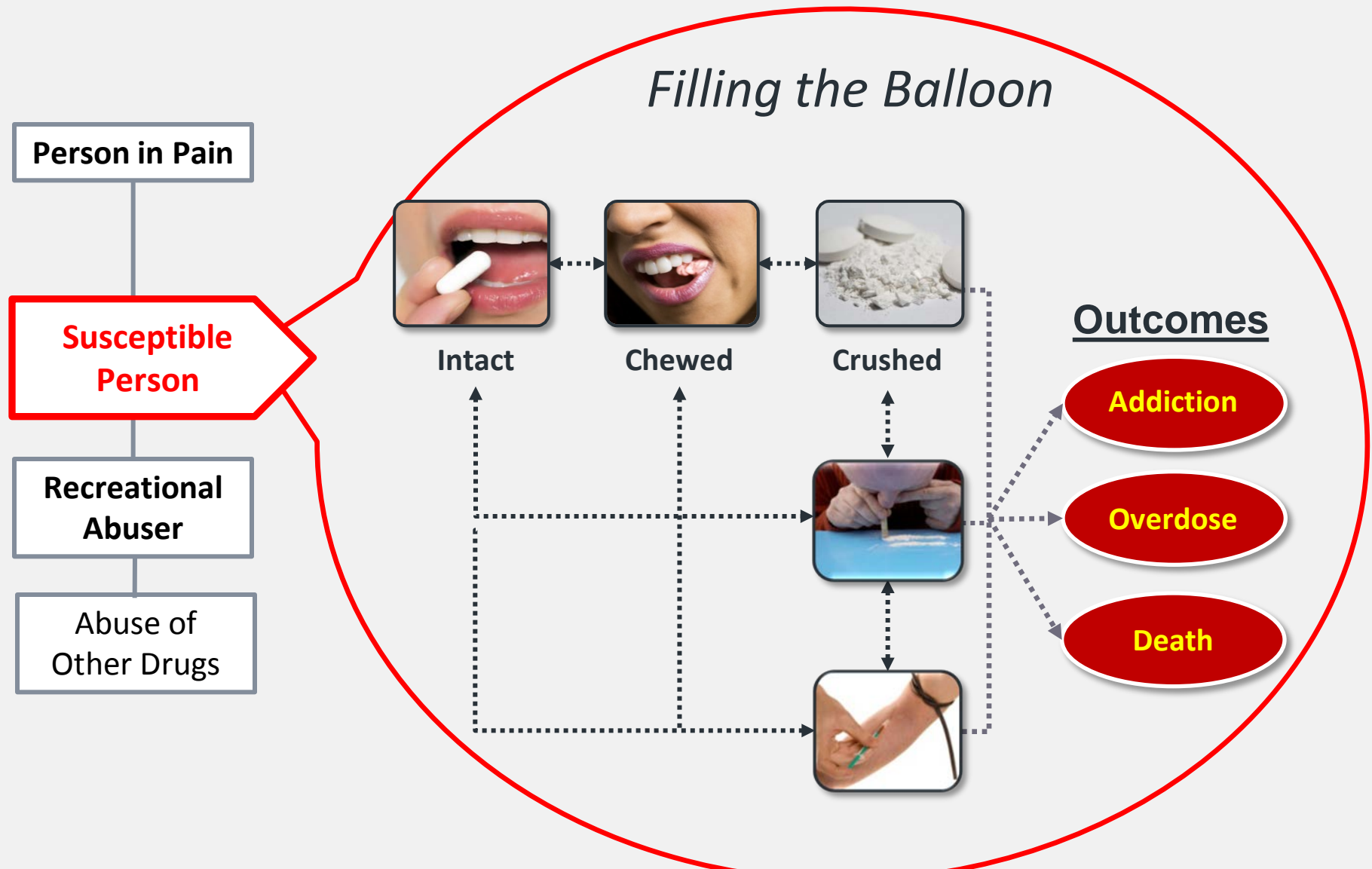
- RADARS System is owned by Denver Health and Hospital Authority, the public hospital for the City and County of Denver. The program is supported by subscriptions by pharmaceutical manufacturers of prescription opioid and stimulants.

What We Heard Today

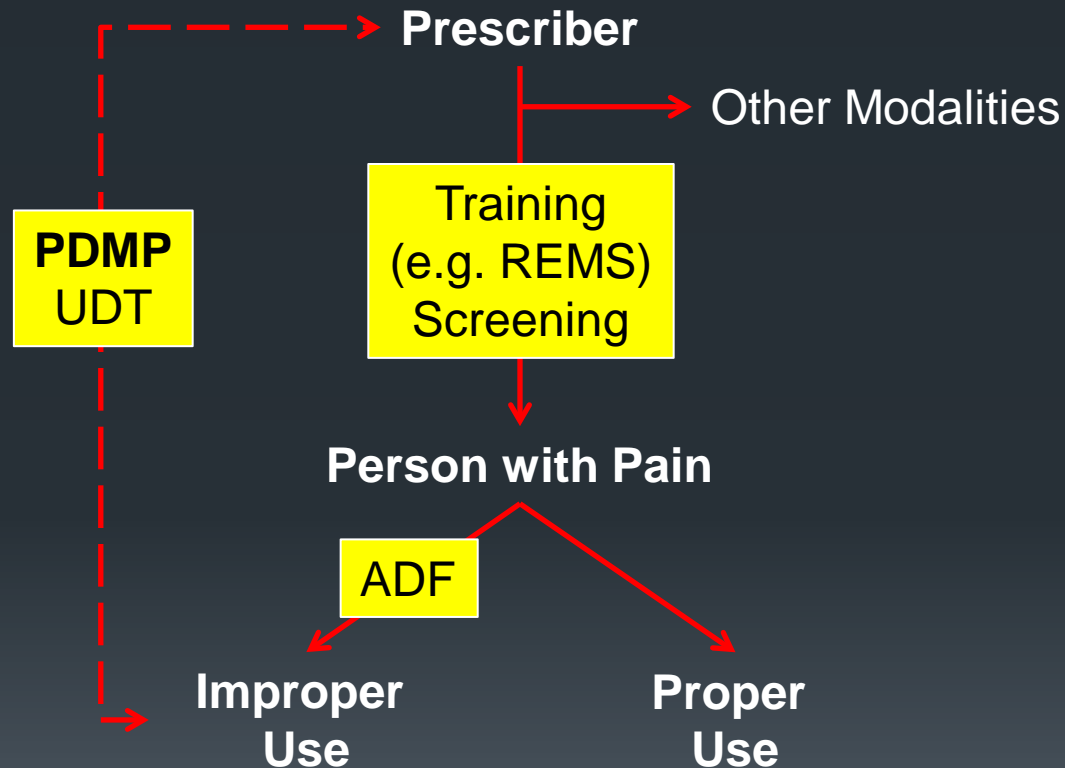
- *National implementation of prescription monitoring programs in Australia*
 - S. Nielsen, University of New South Wales, Sydney,
- *Using Florida's prescription drug monitoring program (PDMP) to monitor pharmacoepidemiologic outcomes before and after the US Centers for Disease Control and Prevention (CDC's) opioid prescribing guidelines.*
 - P. Delcher, University of Florida, Gainesville, FL
- *Evaluating the effectiveness of prescription monitoring programs.*
 - B. Sproule, Centre for Addiction and Mental Health and University of Toronto, Toronto, Ontario, Canada

Progression of Rx Drug Abuse

4

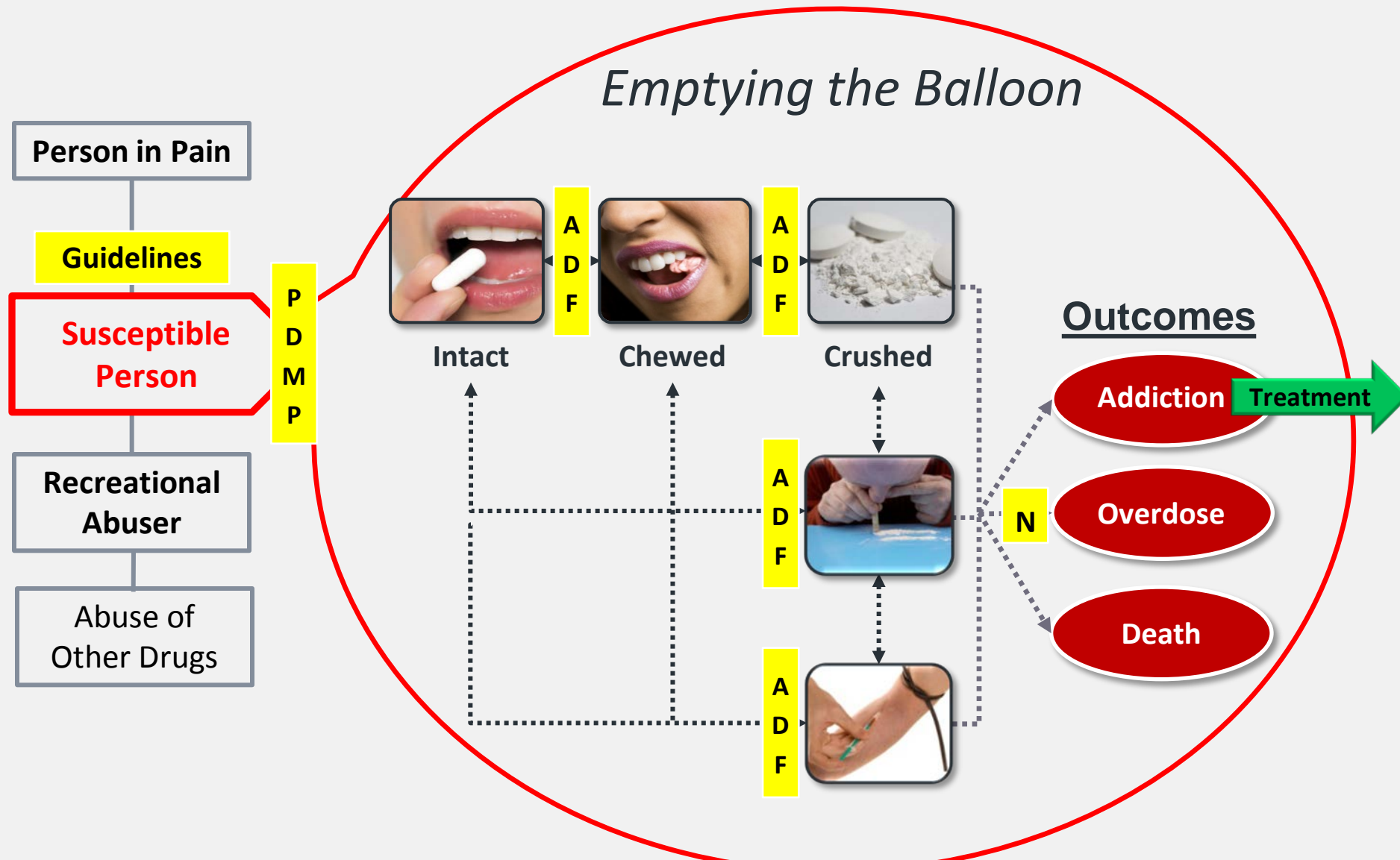


The Theory Behind PDMPs

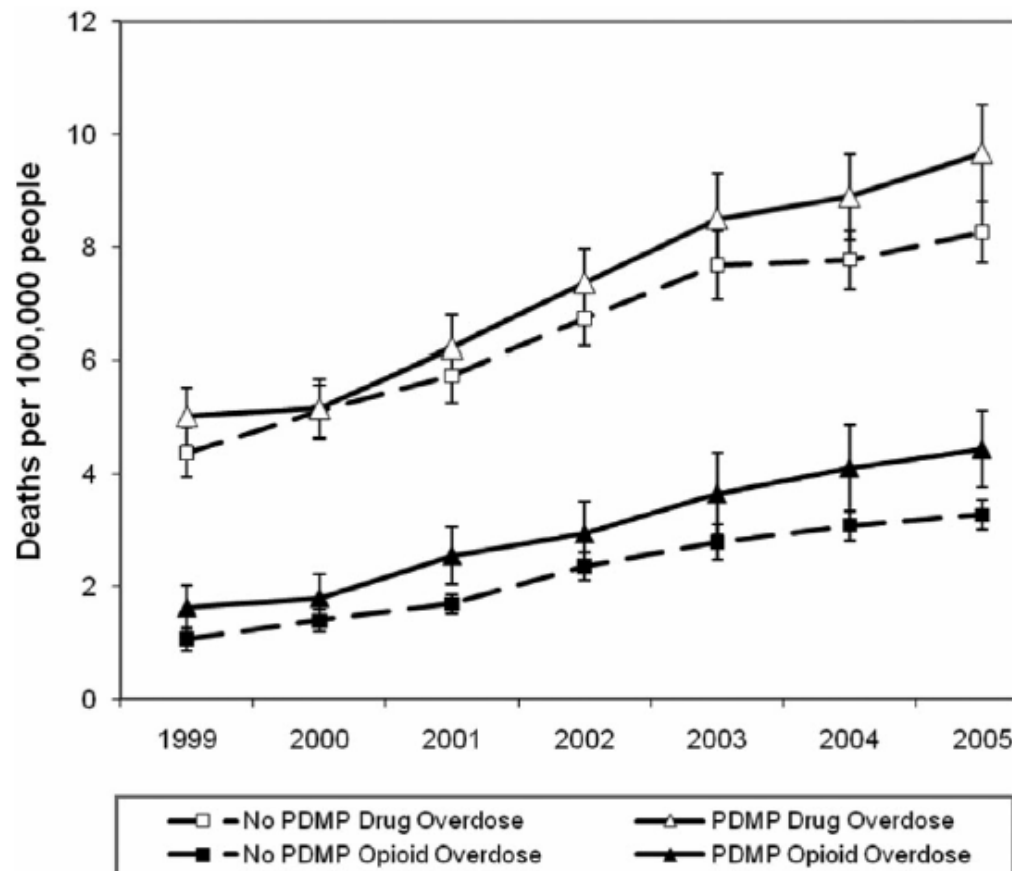


Progression of Rx Drug Abuse

6



What Do the Data Show?



- No adjustments
 - Quality
 - Start
 - Use

Figure 1 Mean drug overdose and opioid overdose mortality rates for PDMP and non-PDMP states by year, 1999–2005. Error bars indicate ± 1 standard error of the mean.

Slower Increase in Opioid Abuse in States with Active PMP

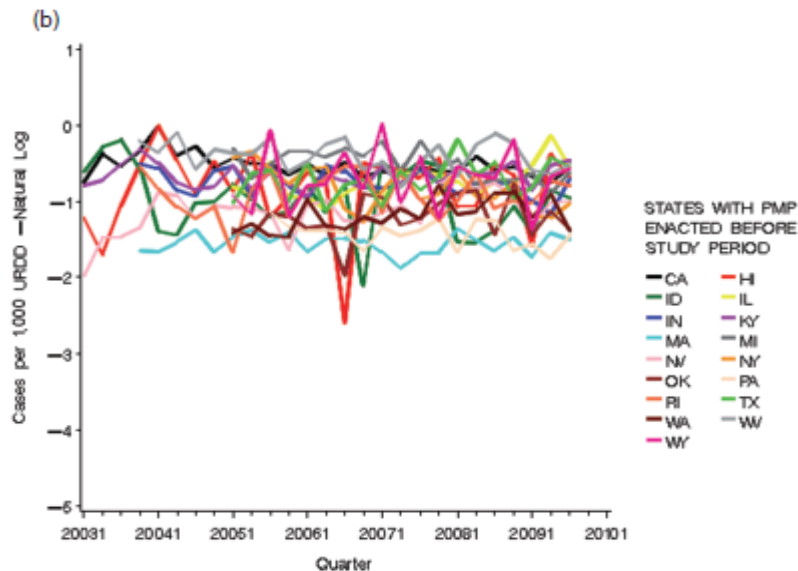
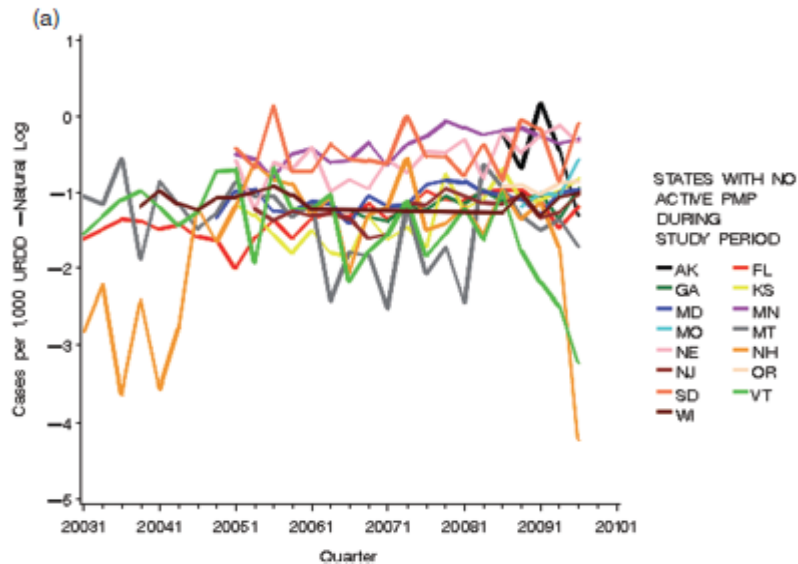
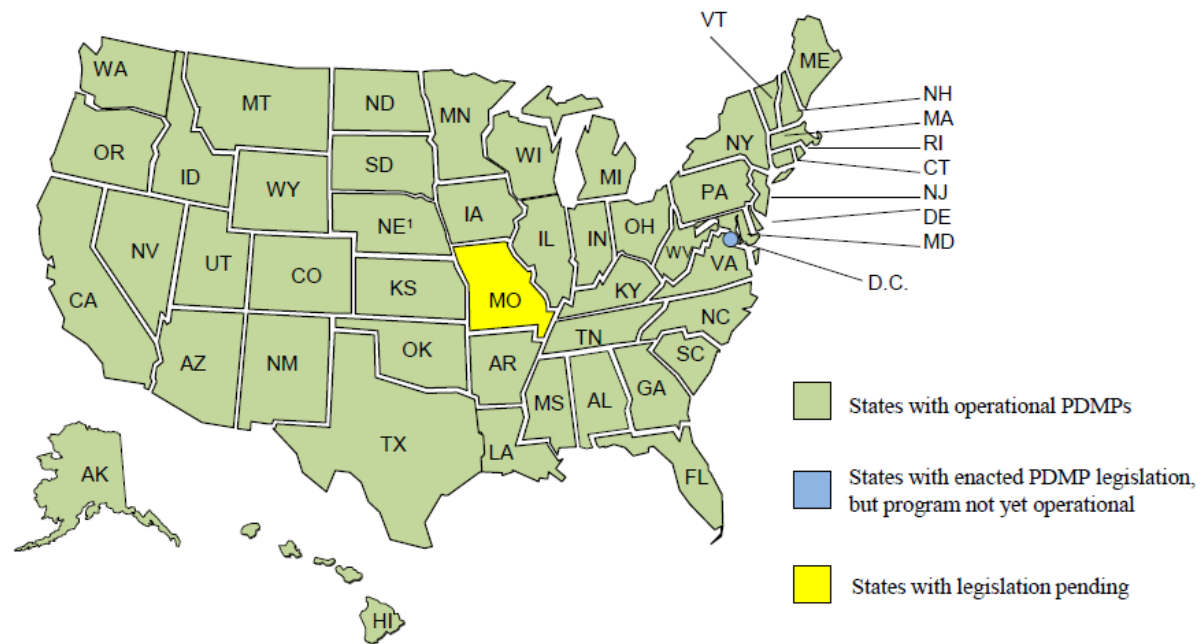


Table 2 Negative binomial model results—relative risk* over time (in quarters) of prescription opioid abuse and misuse in nonprescription monitoring program (non-PMP) and PMP states

RR over Time	Poison Center	Opioid Treatment
Without PMP	1.019 (1.008, 1.030)	1.049 (1.036, 1.063)
With PMP	1.002 (0.992, 1.012)	1.026 (1.009, 1.044)

Reifler LM, Droz D, et al. Pain Med 2012;13:434-42.

Status of State Prescription Drug Monitoring Programs (PDMPs)

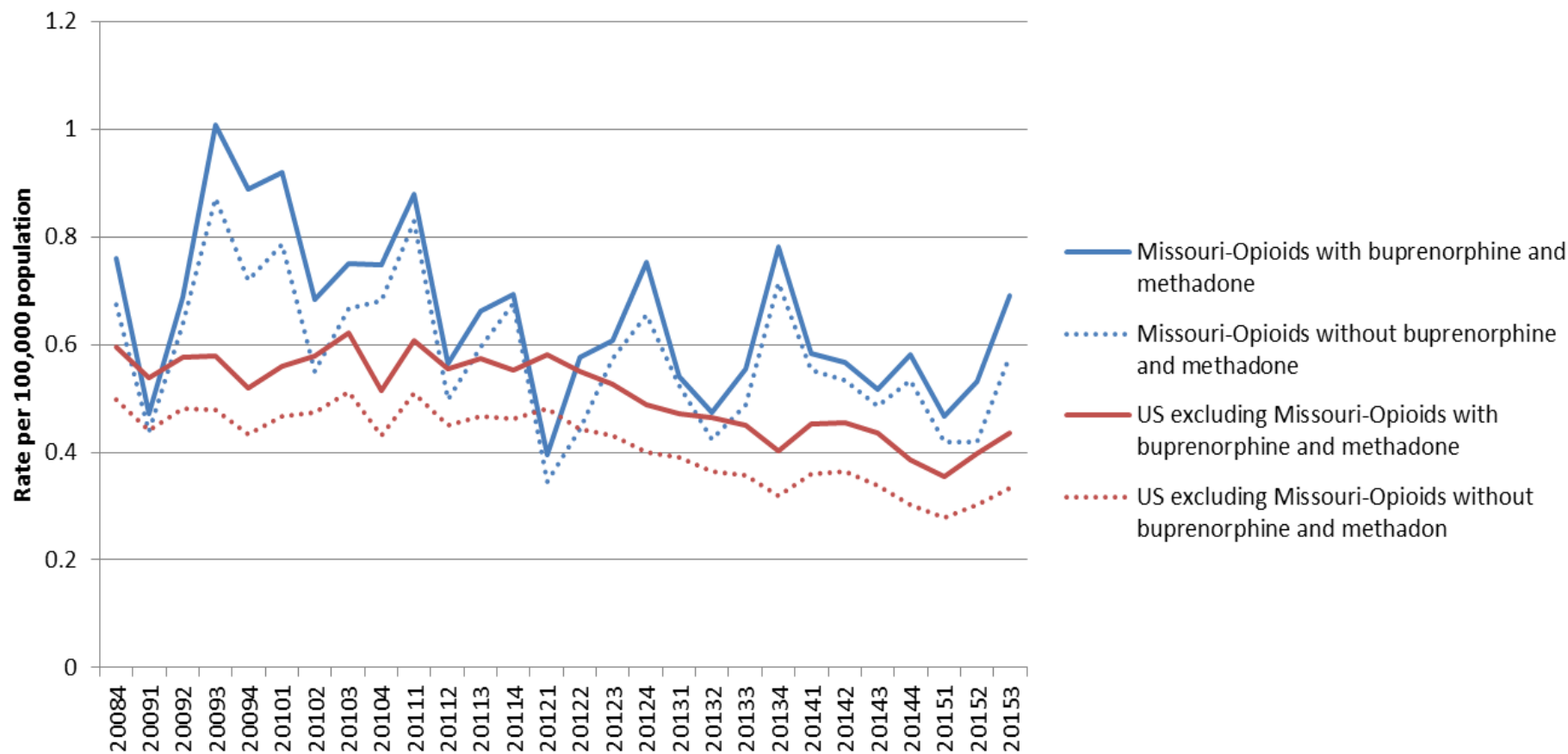


¹ The operation of Nebraska's Prescription Monitoring Program is currently being facilitated through the state's Health Information Initiative. Participation by patients, physicians, and other health care providers is voluntary.

The RADARS System Poison Center Program

Prescription Opioid Intentional Abuse Rates per 100,000 Population

From October 1, 2008 to September 30, 2015



Use of PDMPs Increased 121% from 2014 to 2016



Fact sheet: Physicians' and other health care professionals' use of state prescription drug monitoring programs increases 121 percent from 2014 to 2016; registration nearly triples.

State	Registrations 2014	Registrations 2015	Registrations 2016	Queries 2014	Queries 2015	Queries 2016
Alaska	923	1,122	1,847	45,145	69,282	147,378
Arizona		5,843	27,041		1,548,774	3,975,220
Arkansas	5,159	6,117	8,474	555,240	734,625	2,536,448
California	9,136	17,637	166,819	3,553,551	6,174,394	9,581,280
Connecticut			27,680	250,662	484,736	974,815
Colorado			39,554	682,600	898,000	1,515,839
TOTAL	471,896	628,268	1,322,996	61,462,376	86,096,259	136,095,271

Notes: The AMA sent inquiries to every state PDMP administrator in 2016 and 2017 to obtain this data. In some cases, the PDMP administrator did not respond to the inquiry, or due to other issues, was not able to provide the information. The data will be updated as new information becomes available. (last updated May 2017)

NAMSDL Strong PDMPs

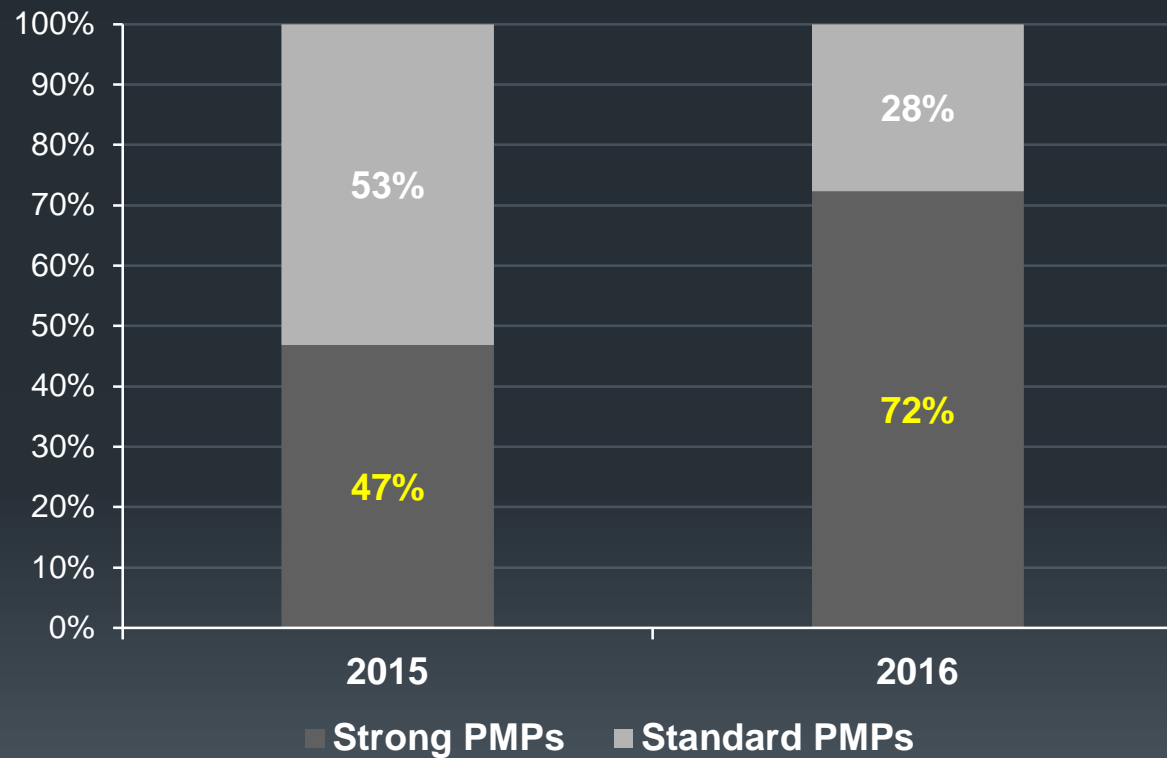


	Strong PMP	Standard PMP
Proactive Disclosure	Proactive disclosure to 3 or 4 of the following sources (prescribers, dispensers, licensing boards, and/or law enforcement)	Proactive disclosure to 0-2 sources
Registration	Prescribers and/or dispensers are required to register with the PMP.	Not required to register with PMP
Access	Prescribers and/or dispensers are required to access the PMP in certain circumstances.	Not required to access the PMP
Collection Interval	Data is reported and available in less than 72 hours.	More than 72 hours
Interstate Sharing	Data is shared with other state PMPs or shared with other state PMPs and authorized users in other states.	Data is not shared

PMPs are Improving Quickly



States with Standard and Strong PMPs



Street Price Prescription Drugs in the United States, StreetRx.com

	Strong PMP Median USD/mg	Standard PMP Median USD/mg
Amphetamines	0.33	0.33
Buprenorphine	2.50*	1.88
Carisoprodol	0.01	0.01
Hydrocodone	0.80*	0.67
Hydromorphone	2.50	2.50
Lisdexamphetamine	0.17	0.17
Methadone	1.00*	0.60
Methylphenidate	0.28	0.28
Morphine	0.37*	0.33
Oxycodone	1.00*	0.83
Oxymorphone	1.50*	1.00
Tramadol	0.05	0.05

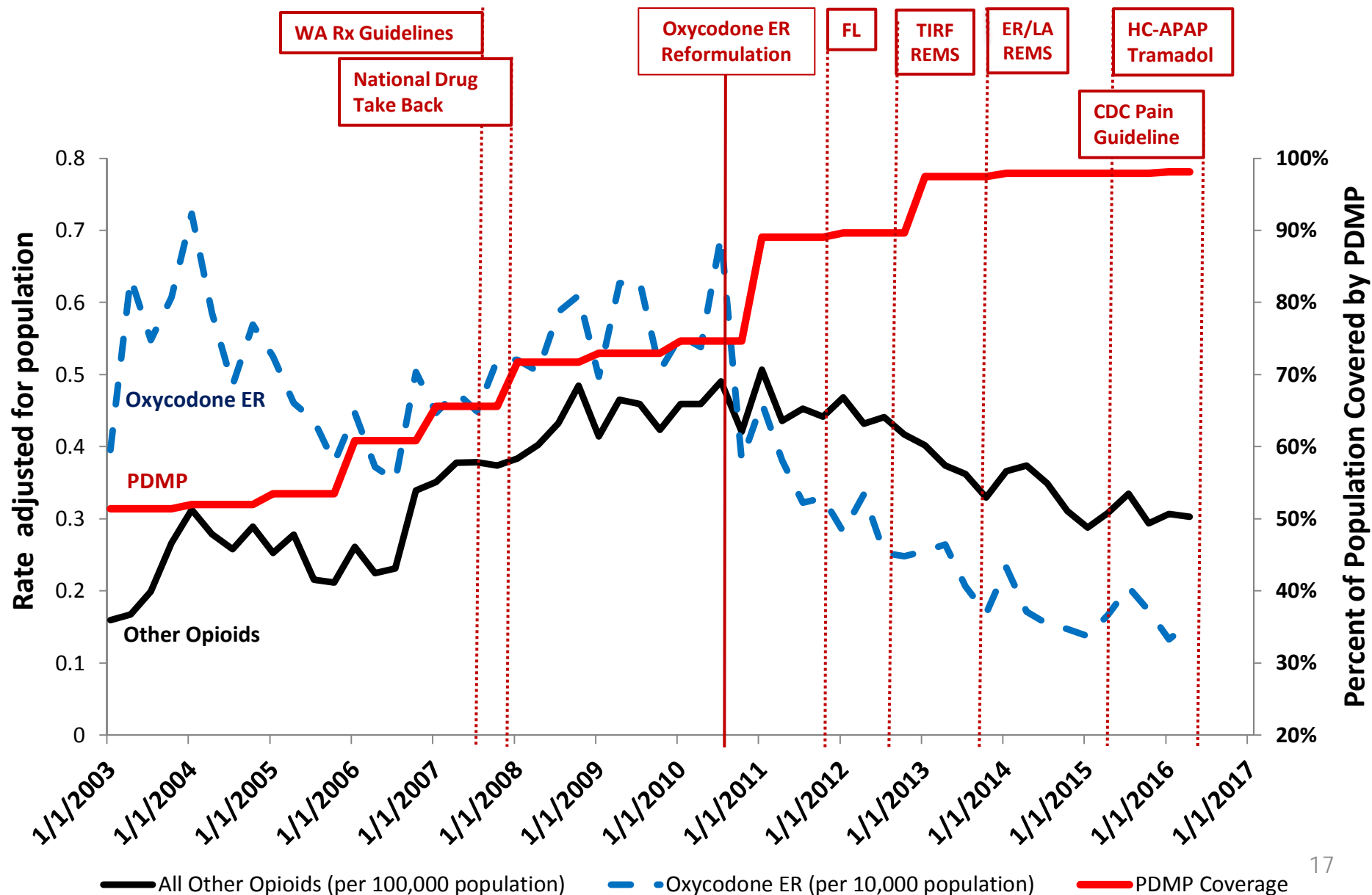
Impact of prescription drug monitoring programs on opioid utilization among Medicare beneficiaries

- DESIGN: Opioid Rx, PDMP vs. non-PDMP states, 2007-12
- SETTING: FL, LA, NE, NJ, VT, GA, WI, MD, NH, AR
- PARTICIPANTS: 310,105 disabled and older adult Medicare enrollees
- MEASUREMENTS: Monthly total opioid volume, mean daily MME dose per prescription, and number of opioid Rx
- FINDINGS:
 - PDMP associated with reduced opioid use, measured by volume, among disabled and older adult Medicare beneficiaries compared with states without PDMPs

Prescription Drug Monitoring Programs Produce Limited Impact on Painkiller Prescribing in Medicare Part D.

- DATA SOURCE: 2010-13 physician-level Medicare Part D
- STUDY DESIGN: Compared states with and without PDMPs for opioid and nonopioid analgesics
- PRINCIPAL FINDINGS:
 - PDMP - 5.2% decrease in days supply prescribed per physician for oxycodone.
 - Smaller reductions for hydrocodone and opioids overall (2.8% and 2%, respectively)
 - Small increase in prescribing for Schedule IV opioids.
 - PDMP not associated with changes for nonopioid analgesics
 - PDMP effects negated in states PDMP use not required

Confounding Main Challenge to Interpretation of PDMP Data



Summary

- Yes, PMPs make a difference
 - The extent of that difference is unclear
- Biggest Challenge is separating effects of other interventions from PMPs
- PMPs have other values, which remain unstudied
 - Health care system use
 - Individual group use
 - Law enforcement