

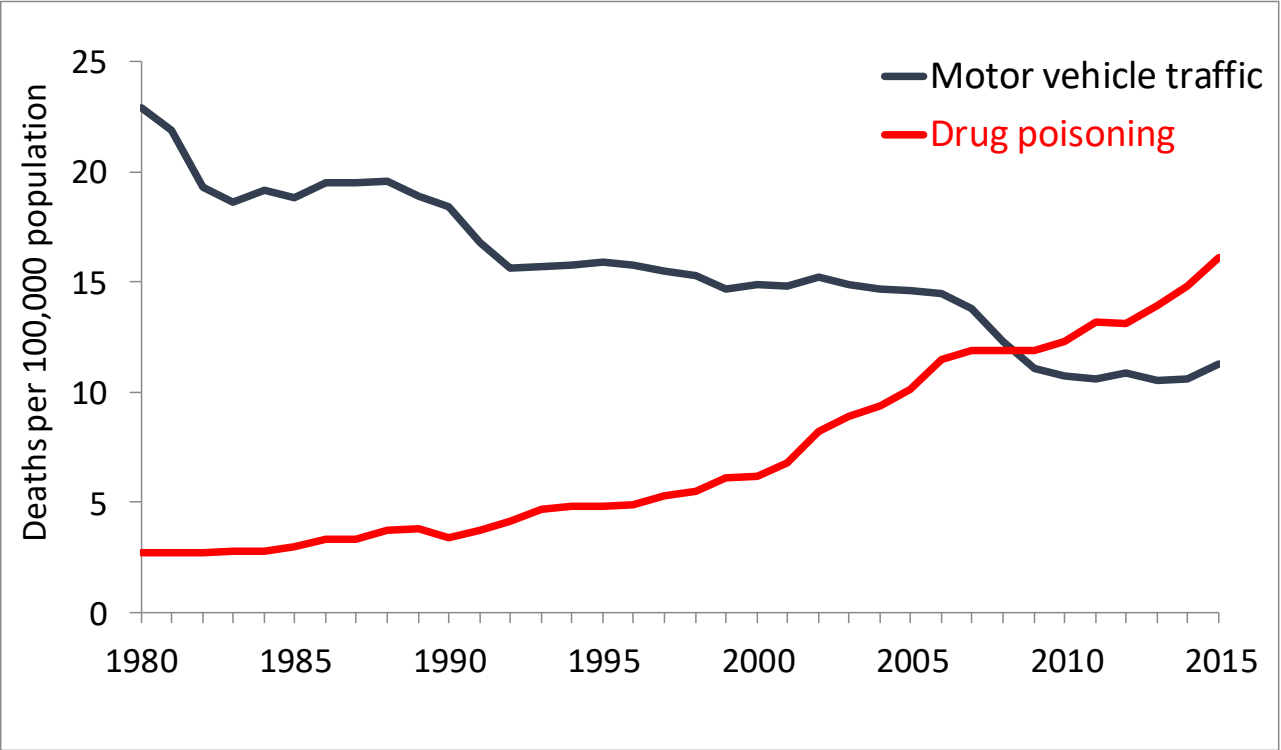
Use of Prescription Opioids and Motor Vehicle Crashes



Guohua Li
Center for Injury Epidemiology and Prevention
Columbia University Medical Center
GL2240@cumc.columbia.edu

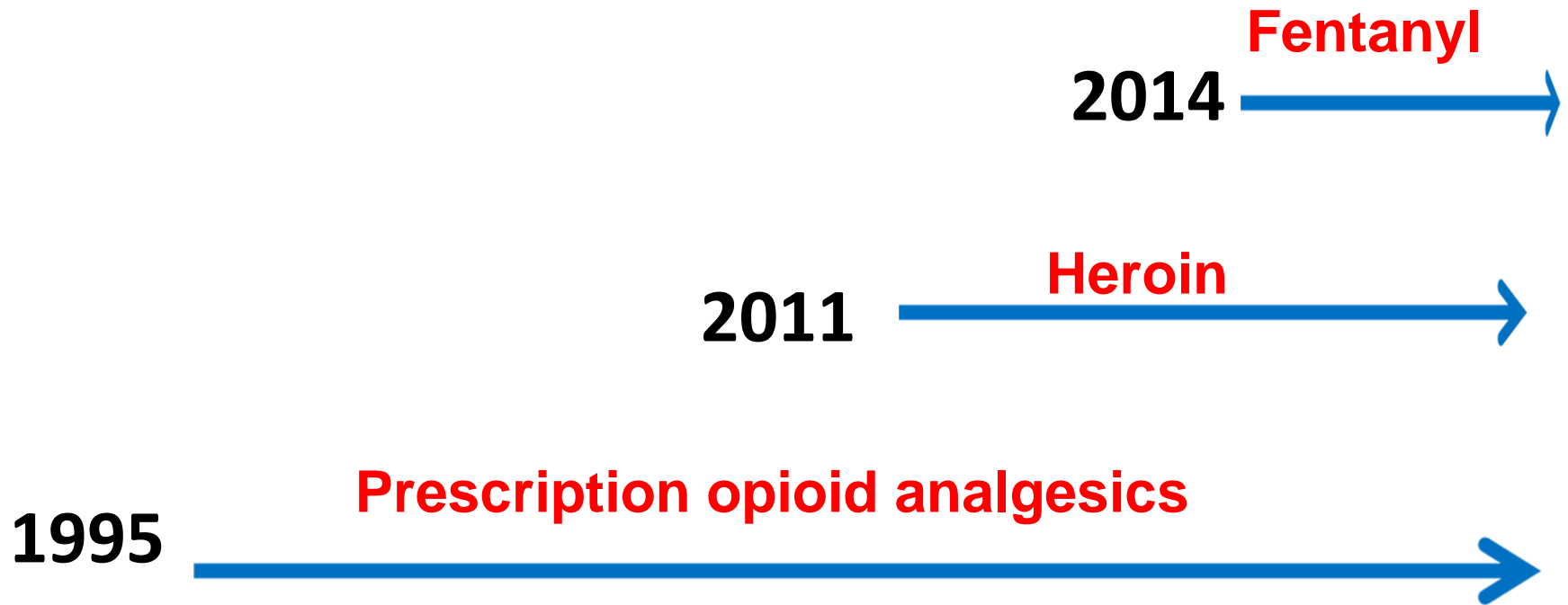
No conflict of interest to disclose.

Death Rates from Motor vehicle Crashes and Drug Overdose, United States, 1980-2015



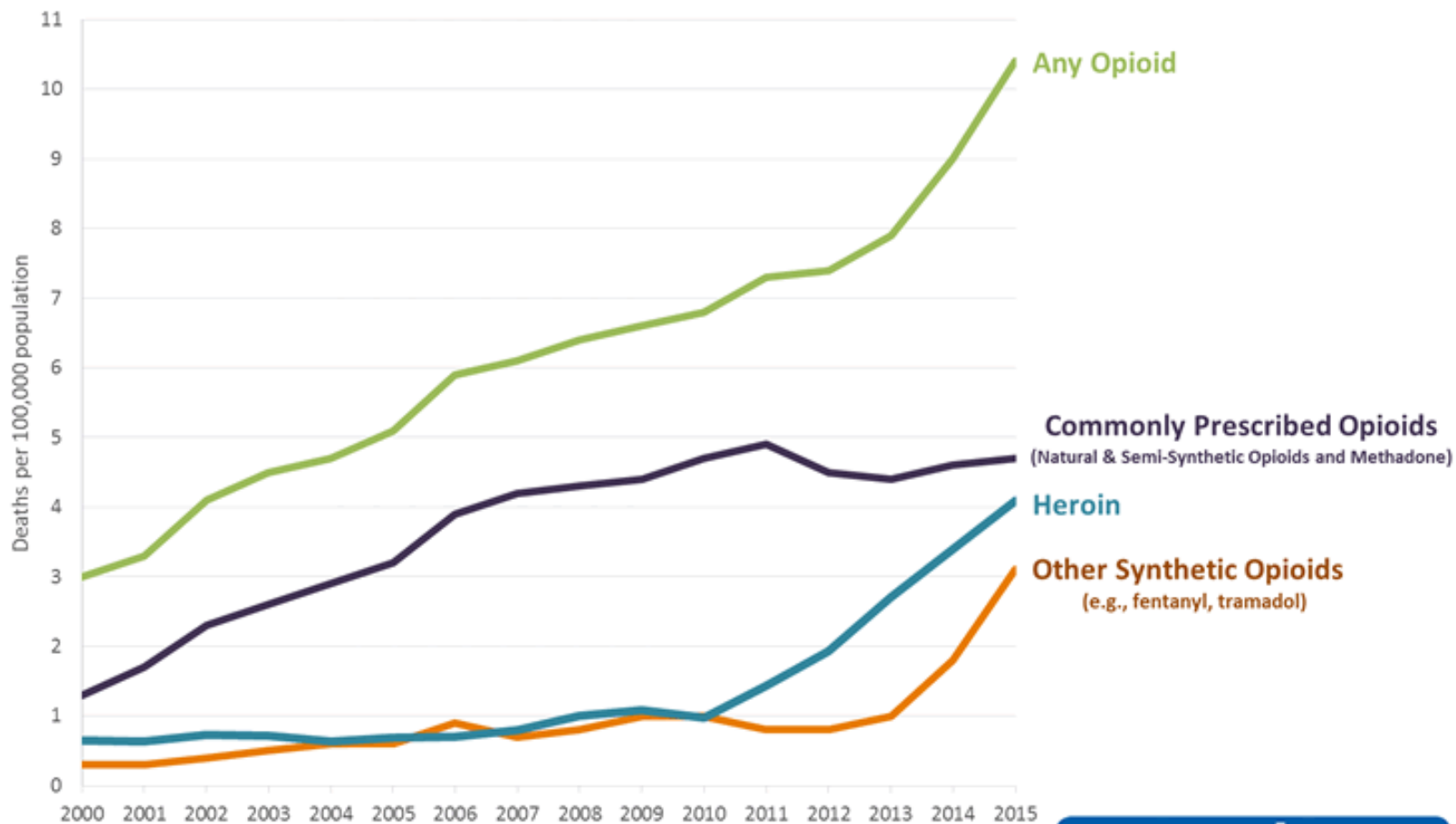
SOURCE: CDC/NCHS, National Vital Statistics System, Mortality File

Evolution of the Opioid Epidemic





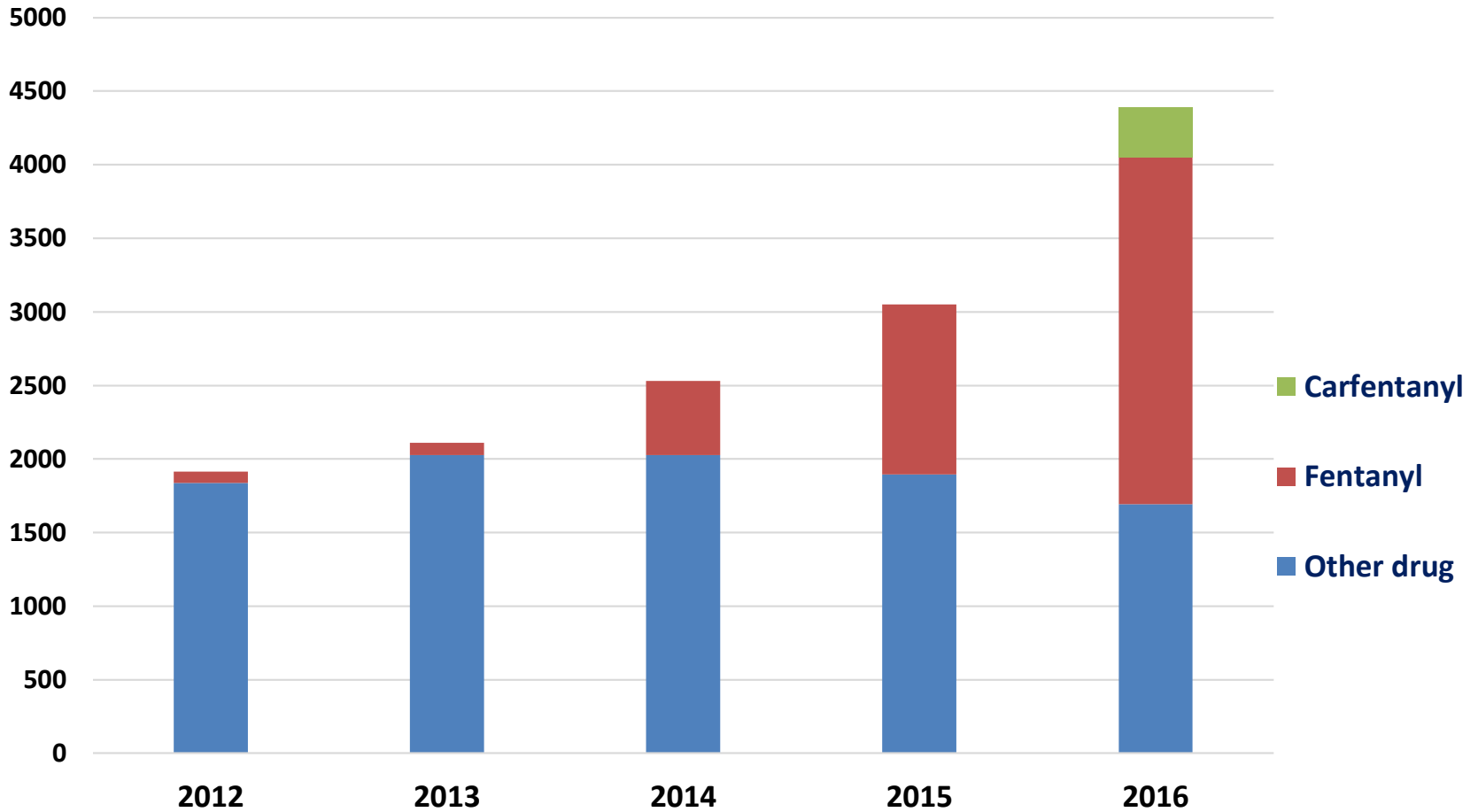
Overdose Deaths Involving Opioids, United States, 2000-2015



SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2016. <https://wonder.cdc.gov/>.

www.cdc.gov
Your Source for Credible Health Information

Annual number of drug overdose deaths by drug category, Ohio, 2012-2016



Source: Ohio Department of Health.



Heath Ledger, 2008



Michael Jackson, 2009



Whitney Houston, 2012



Cory Monteith, 2013



Philip Seymour Hoffman,
2014



Prince Nelson, 2016

“The opiate epidemic is primarily defined by deaths from overdoses, but its health impact goes beyond those overdose fatalities,” said Guohua Li, director of the Center for Injury Epidemiology and Prevention at Columbia University.

DRAMATIC INCREASES IN MATERNAL OPIOID USE AND NEONATAL ABSTINENCE SYNDROME

THE USE OF OPIOIDS DURING PREGNANCY CAN RESULT IN A DRUG WITHDRAWAL SYNDROME IN NEWBORNS CALLED **NEONATAL ABSTINENCE SYNDROME (NAS)**, WHICH CAUSES **LENGTHY AND COSTLY HOSPITAL STAYS**. ACCORDING TO A NEW STUDY, AN ESTIMATED **21,732 BABIES** WERE BORN WITH THIS SYNDROME IN THE UNITED STATES IN 2012, A **5-FOLD INCREASE** SINCE 2000.

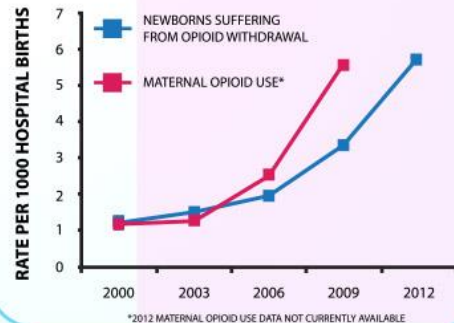


**EVERY 25 MINUTES,
A BABY IS BORN SUFFERING
FROM OPIOID WITHDRAWAL.**

AVERAGE LENGTH OR COST OF HOSPITAL STAY

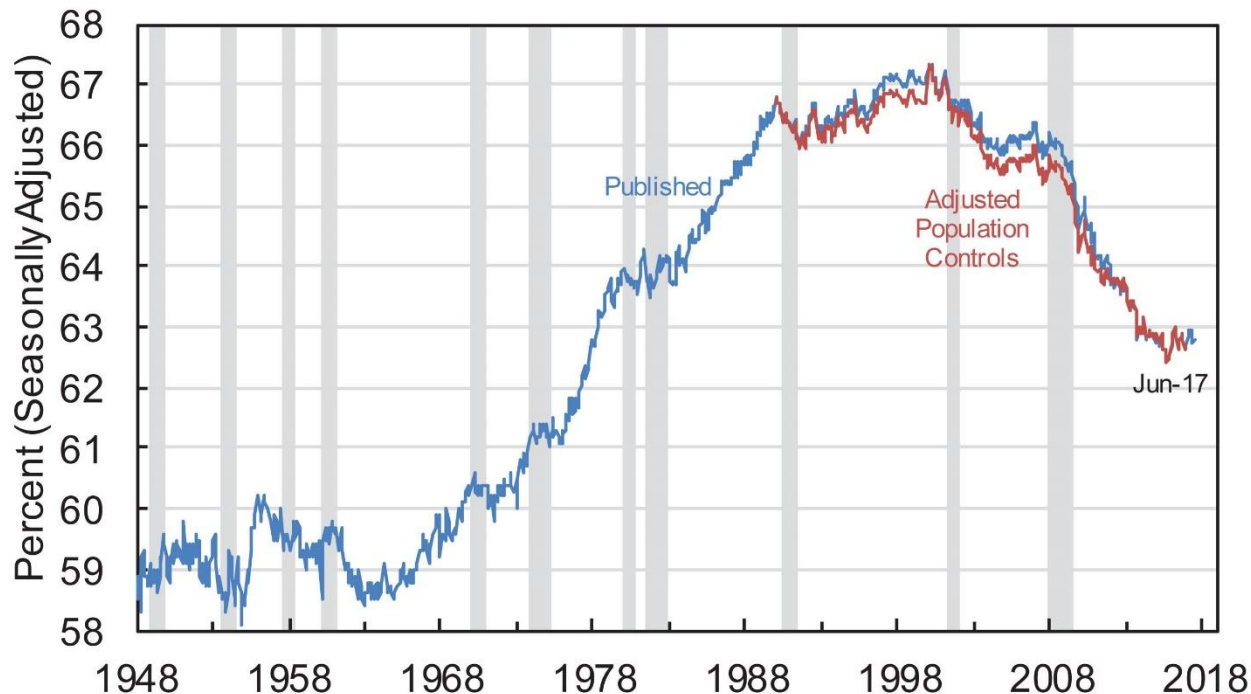


NAS AND MATERNAL OPIOID USE ON THE RISE



1 in 5 Men Drop Out of the Labor Market Because of Drugs

Labor Force Participation Rate

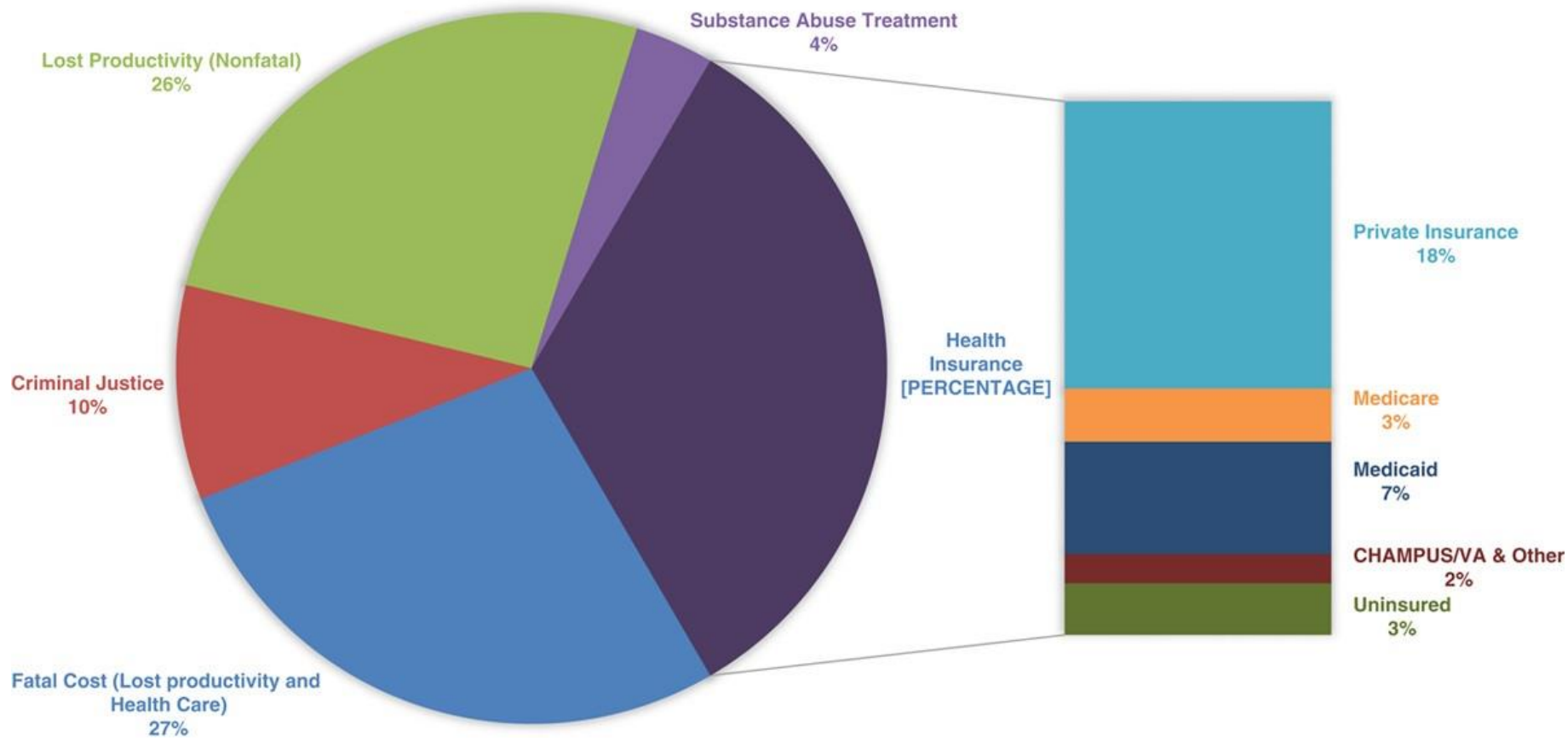


Note: Data for January 1990 to December 2016 have been adjusted to account for the effects of the annual population control Adjustments to the Current Population Survey. Shading denotes recession. Data Source: Bureau of Labor Statistics, National Bureau of Economic Research

Krueger AB. Where have all the workers gone? An inquiry into the decline of US labor force participation rate. Brookings Papers on Economic Activity. September 2017.

Economic Costs of Prescription Opioid Overdose, Abuse, and Dependence in the United States, 2013: **\$78.5 billion**

DISTRIBUTION OF THE ECONOMIC BURDEN OF PRESCRIPTION OPIOID OVERDOSE, ABUSE AND DEPENDENCE



Associated Press

20 Nov 2017

AP



The true cost of the opioid epidemic in 2015 was \$504 billion, according to the estimate by the White House Council of Economic Advisers

The Columbus Dispatch

Police: Truck driver in Ohio crash blacked out after heroin
Cincinnati (AP) August 19, 2017

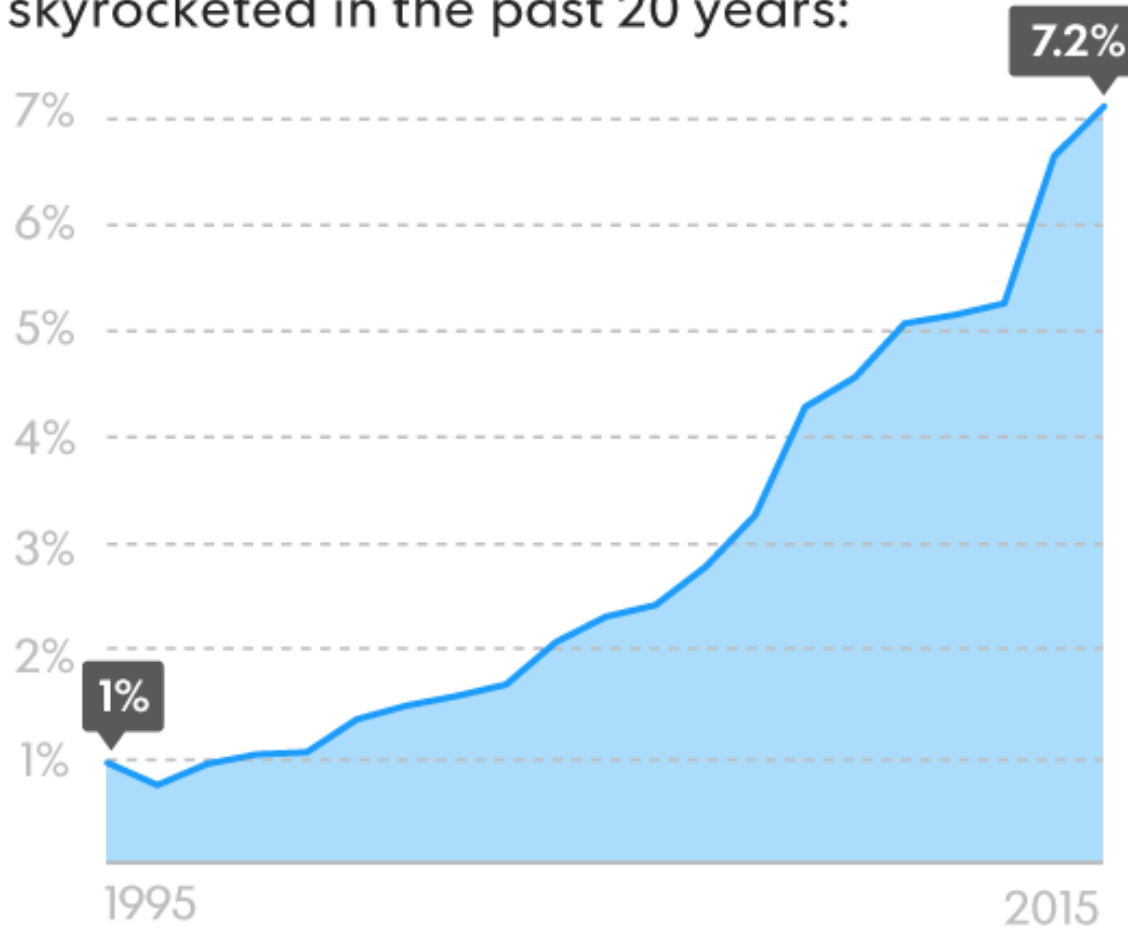


The crash on Interstate 74 temporarily closed the westbound lanes in Green Township Friday evening.

Authorities say 28-year-old Scotty R. Kinmon of Crittenden, Kentucky, blacked out after taking heroin.

OPIOIDS AND FATAL ACCIDENTS

The percentage of fatally injured drivers with opioids in their bloodstream has skyrocketed in the past 20 years:

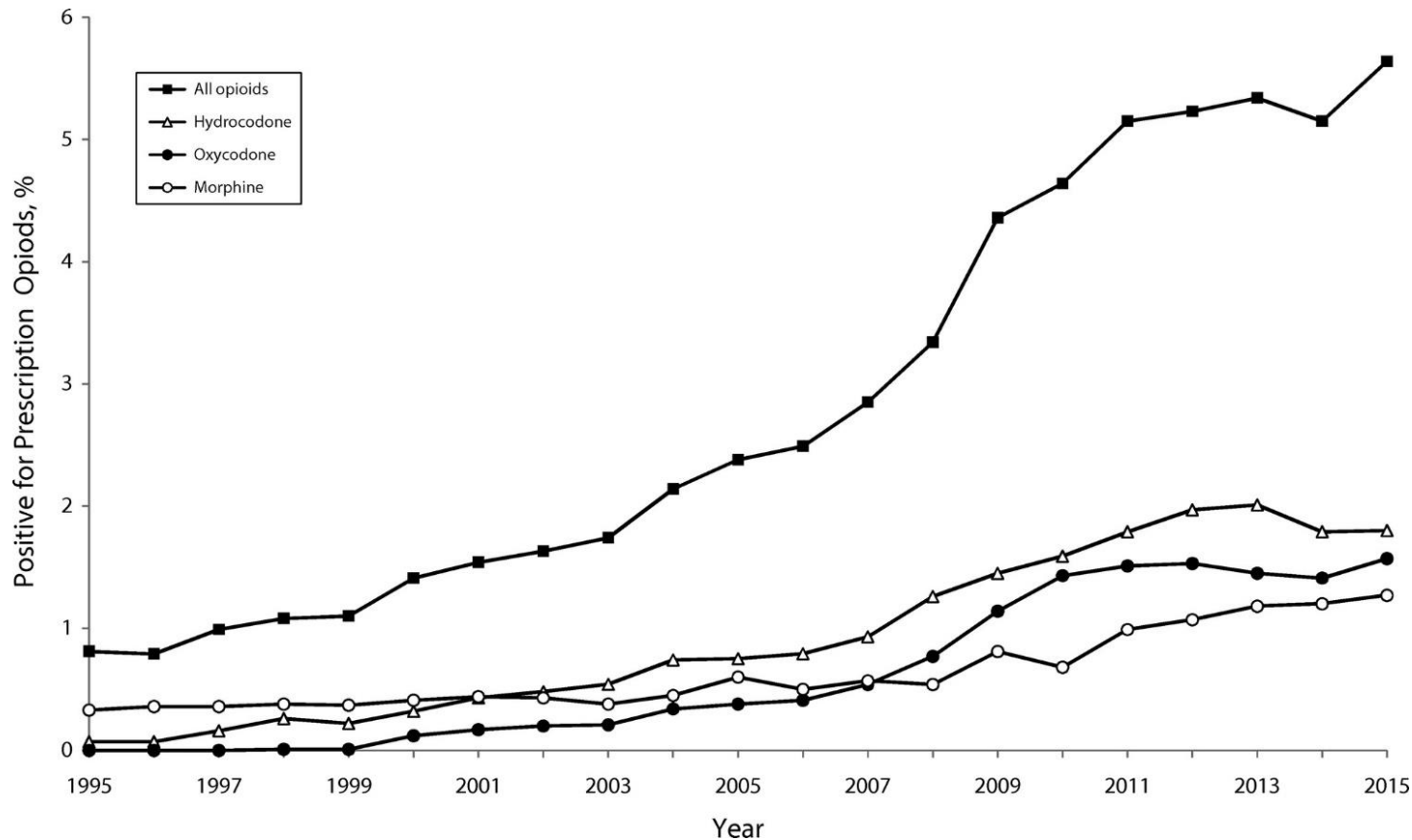


SOURCE Stanford Chihuri and Guohua Li
Jim Sergent, USA TODAY

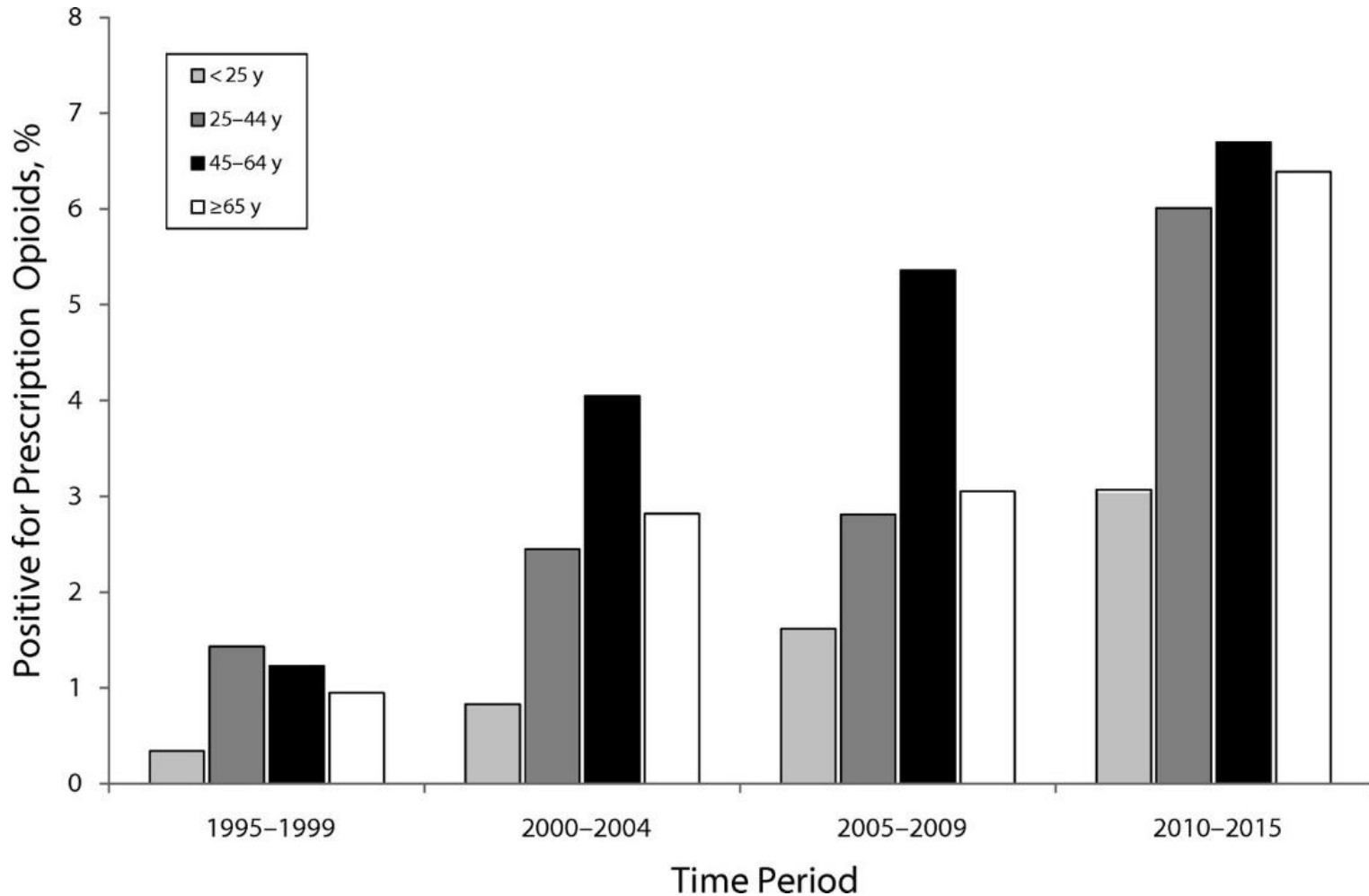


Aug. 3, 2017

Prevalence of Prescription Opioids Detected in Drivers Who Died Within 1 Hour of Crashing by Year and Prescription Opioid Type: Fatality Analysis Reporting System; California, Hawaii, Illinois, New Hampshire, Rhode Island, West Virginia; 1995–2015



Prevalence of Prescription Opioids Detected in Drivers Who Died Within 1 Hour of Crashing by Year and Age: Fatality Analysis Reporting System; California, Hawaii, Illinois, New Hampshire, Rhode Island, West Virginia; 1995–2015

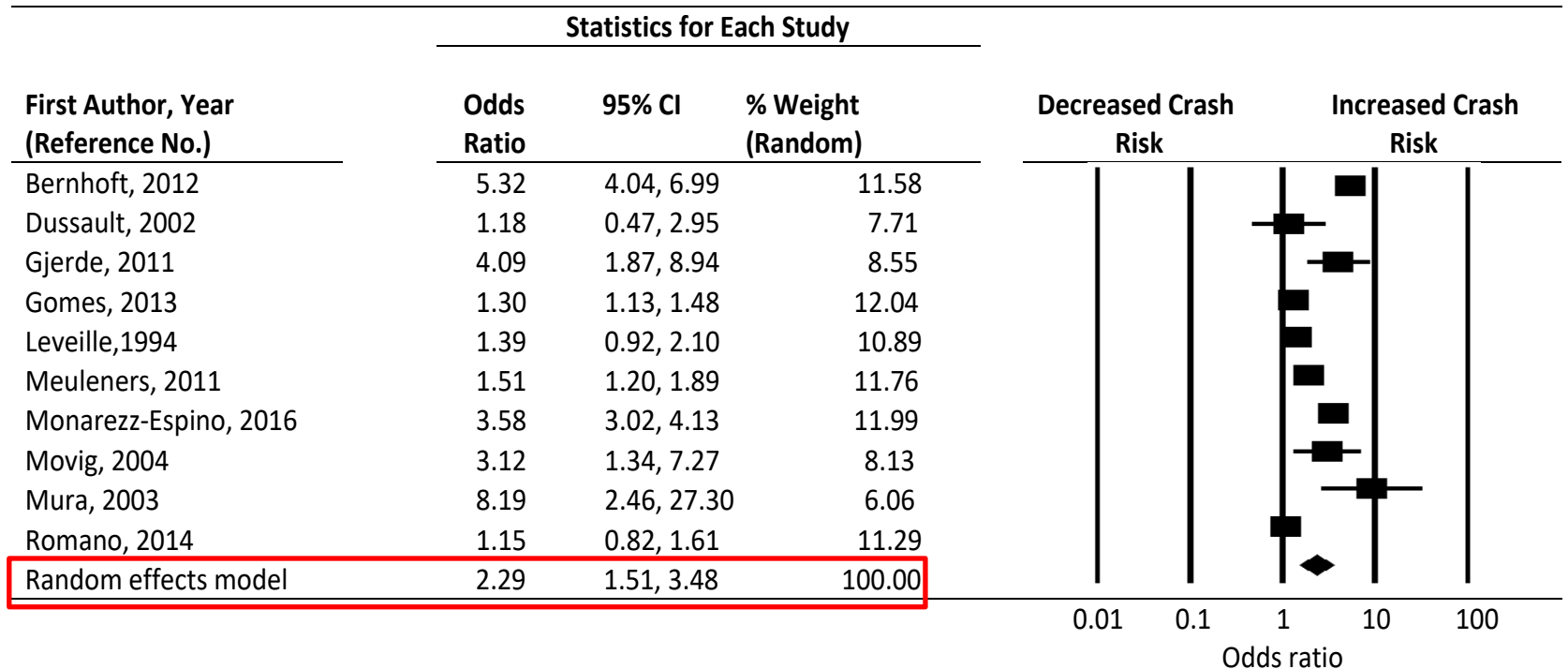


Adjusted Odds Ratios and 95% Confidence Intervals of fatal crash involvement according to prescription **opioid** and **alcohol** testing results

Opioid	Alcohol	Adjusted Odds Ratio (95% CI)
-	-	1.00
+	-	1.72 (1.37 - 2.17)
-	+	17.74 (16.09 - 19.56)
+	+	21.40 (14.13 - 32.42)

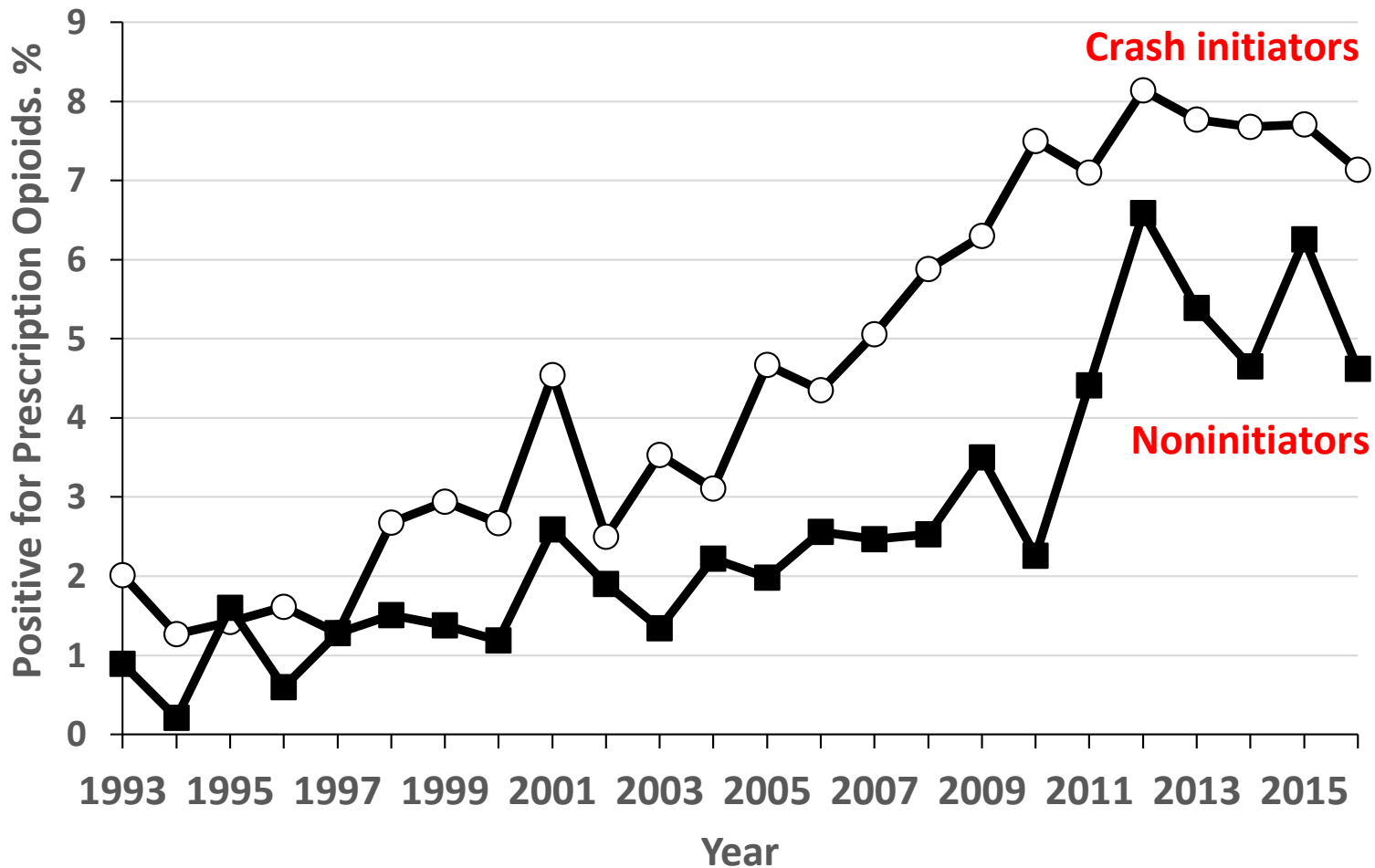
Positive interaction on additive scale.

Prescription Opioid Use and Risk of Motor Vehicle Crash Involvement



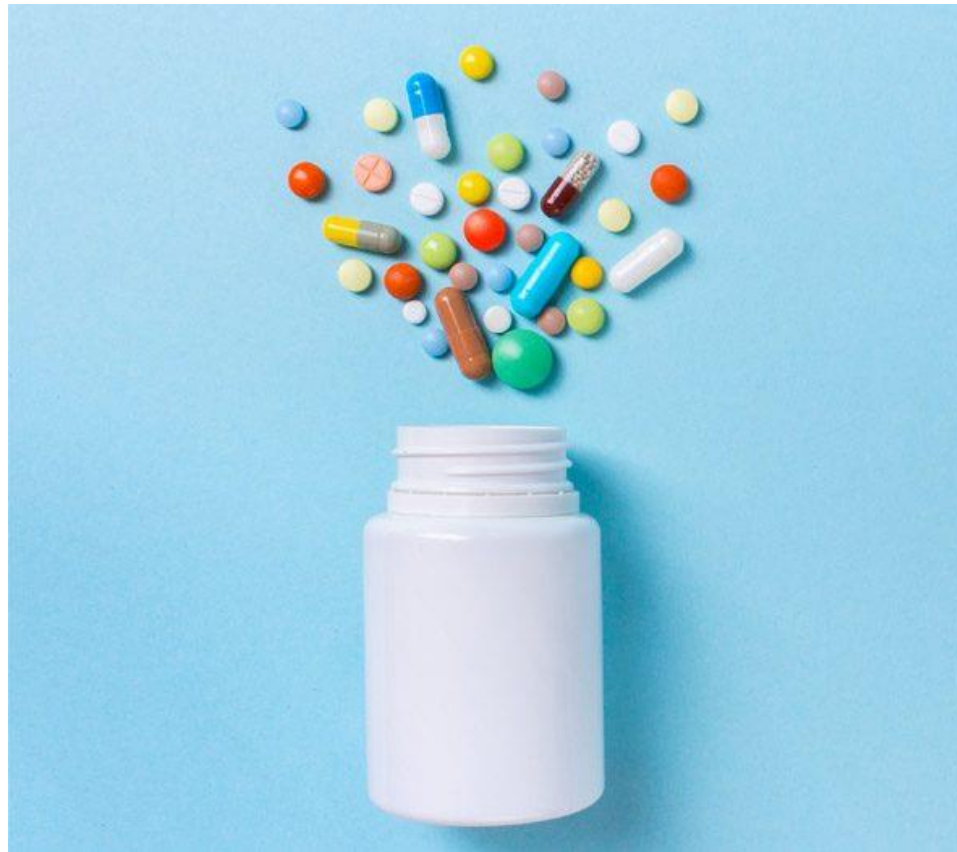
Forest plot, summary odds ratios (ORs), and 95% confidence intervals (CIs) of the association between use of prescription opioids and crash involvement. The diamond indicates the summary OR. Heterogeneity; Q statistic: 169.22, df=9, p<0.001, I²=94.7

Prevalence of Prescription Opioids in Drivers Involved in Fatal 2-Vehicle Crashes, Fatality Analysis Reporting System, 1993-2016



DOT Adds Prescription Opioids to Mandatory Drug Testing Program for Safety-Sensitive Employees

January 3rd, 2018 by Debbie Lamb



Acknowledgments

Collaborators:

Joanne Brady, Qixuan Chen, Stanford Chihuri, and
Barbara Lang

Funding:

NIAAA (R01AA009963) , NIDA/NIH (R21DA 029670),
and NCIPC/CDC (R49 CE002096)



Spring in the New York Botanical Garden

Thank you!