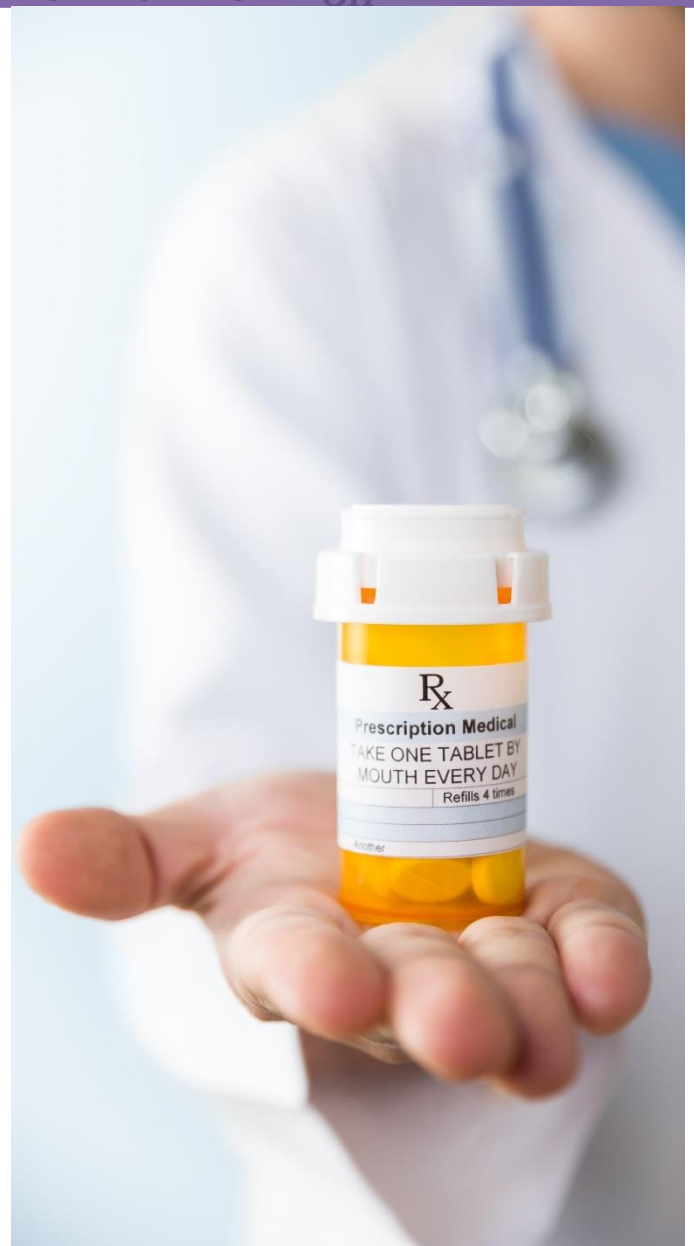
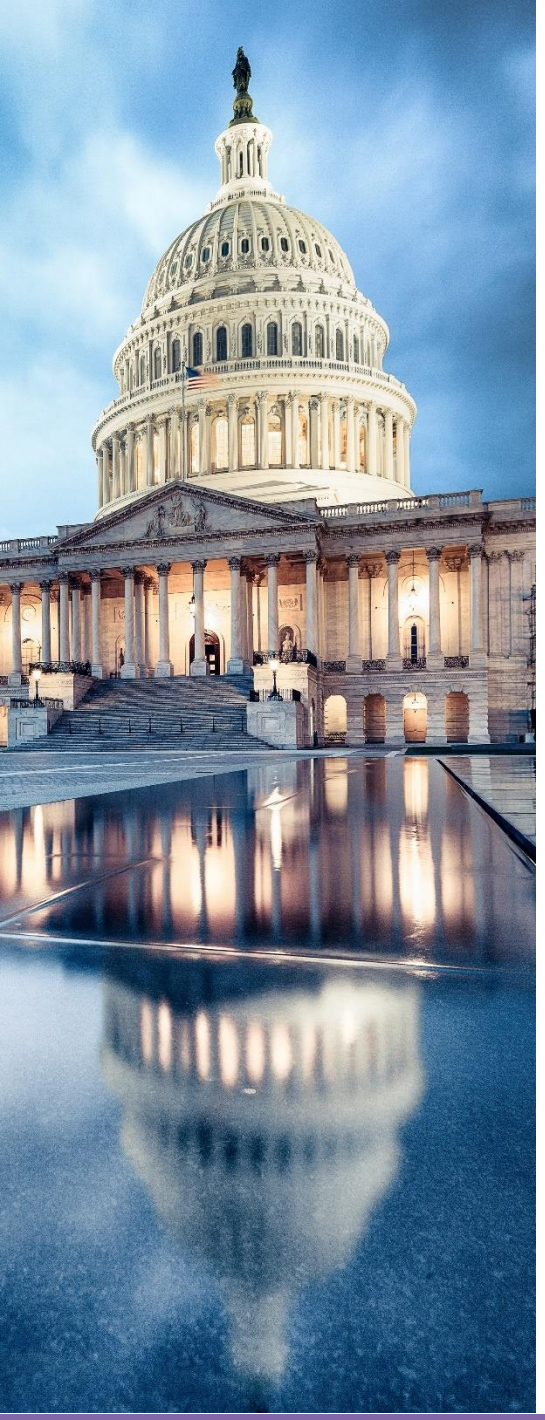


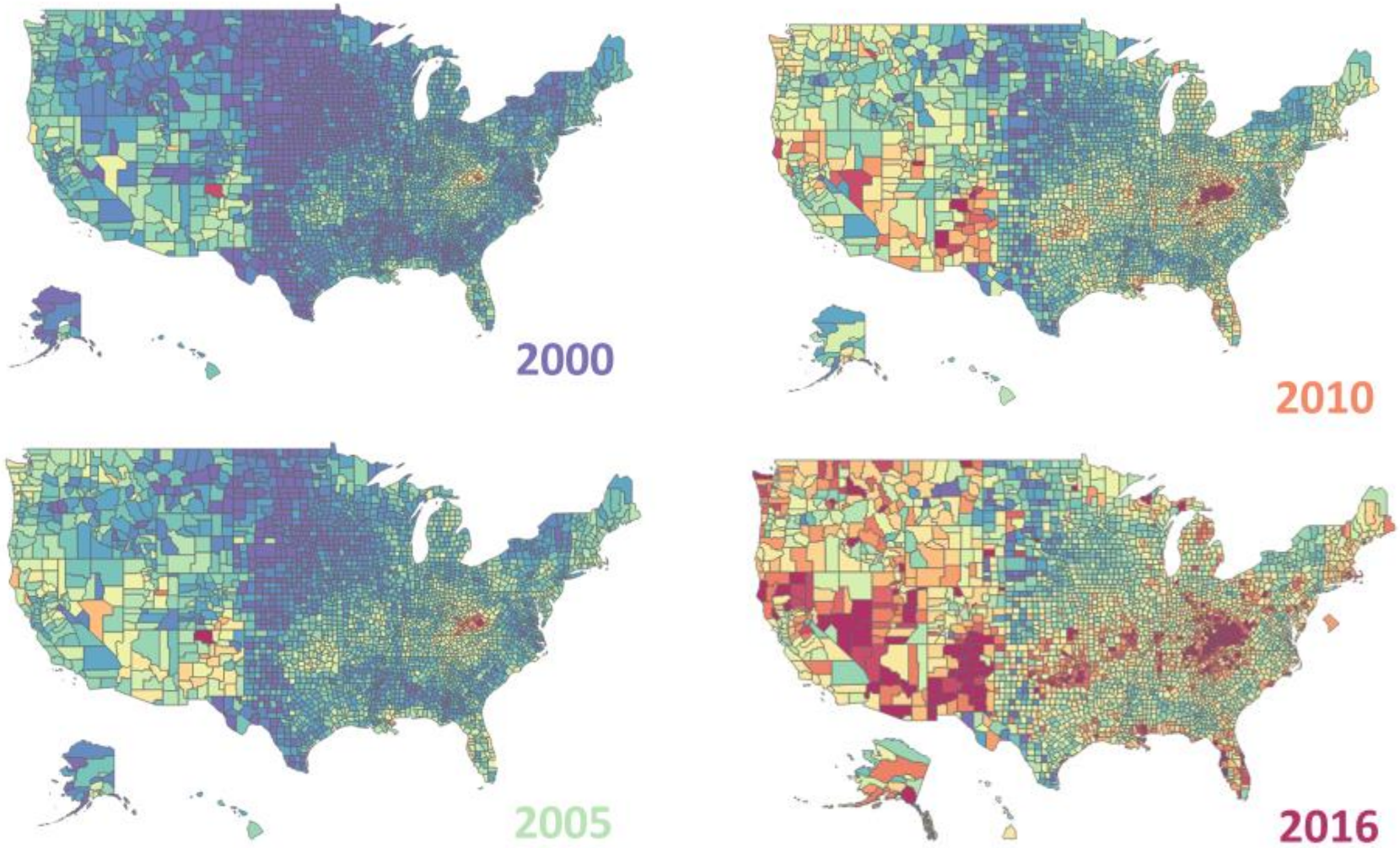
The Evolving Opioid Overdose Epidemic: CDC's Approach to Surveillance and Prevention

Sarah Bacon, PhD

Lead Behavioral Scientist
Overdose Prevention Programs Team
Division of Unintentional Injury Prevention

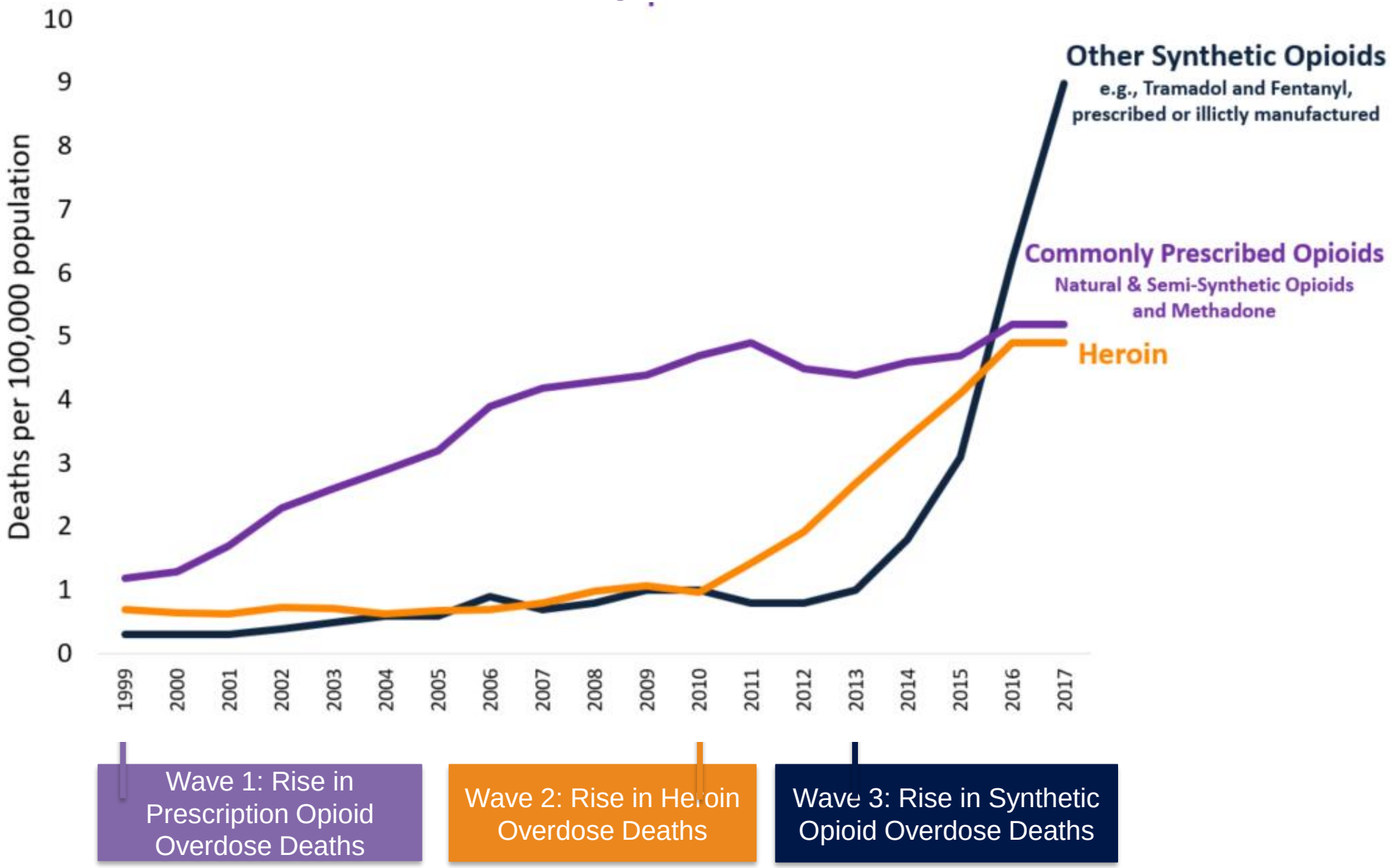


Rapid Increase in Drug Overdose Death Rates by County



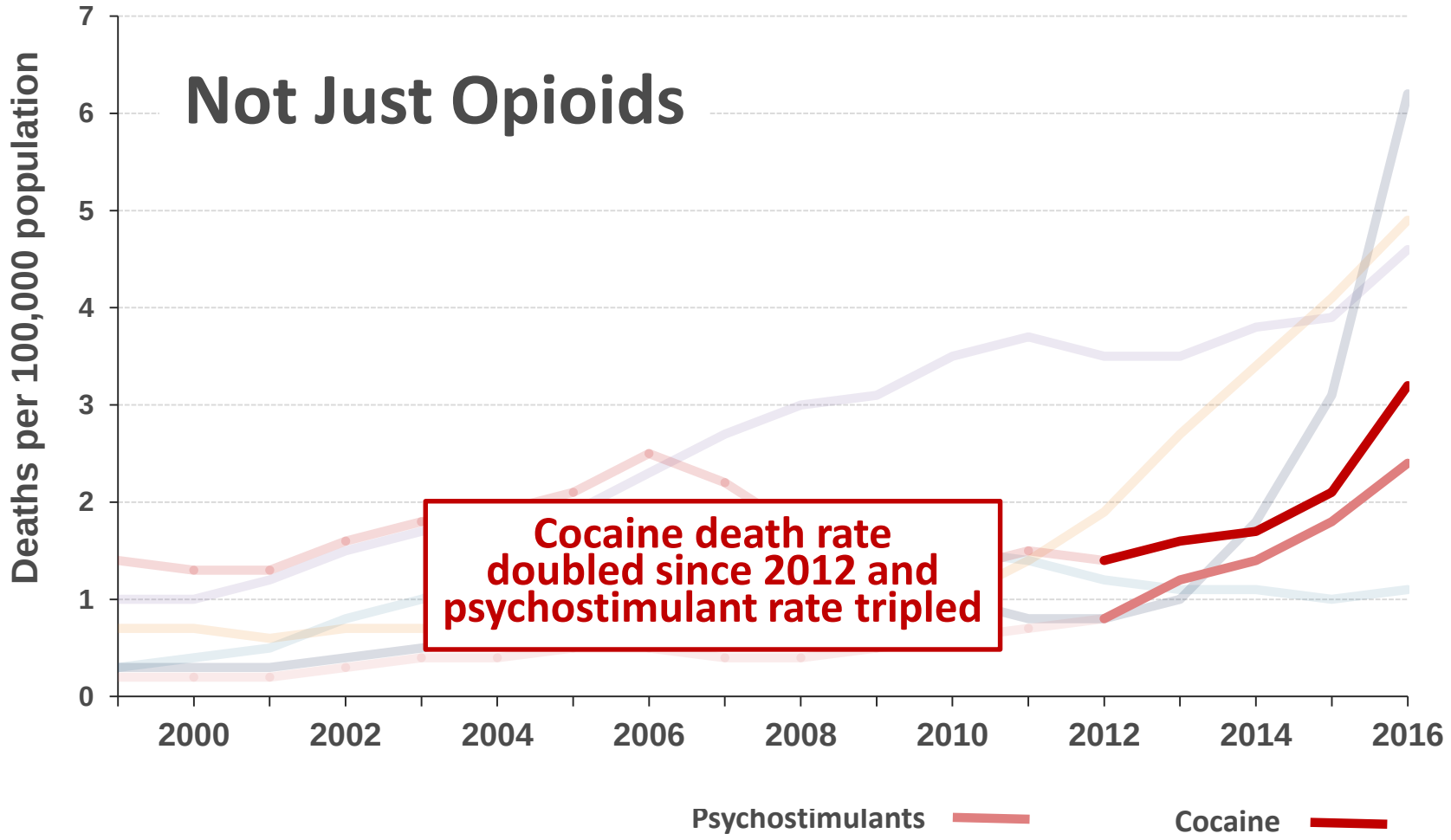
SOURCE: NCHS Data Visualization Gallery

Three Waves of the Rise in Opioid Overdose Deaths



SOURCE: National Vital Statistics System Mortality File.

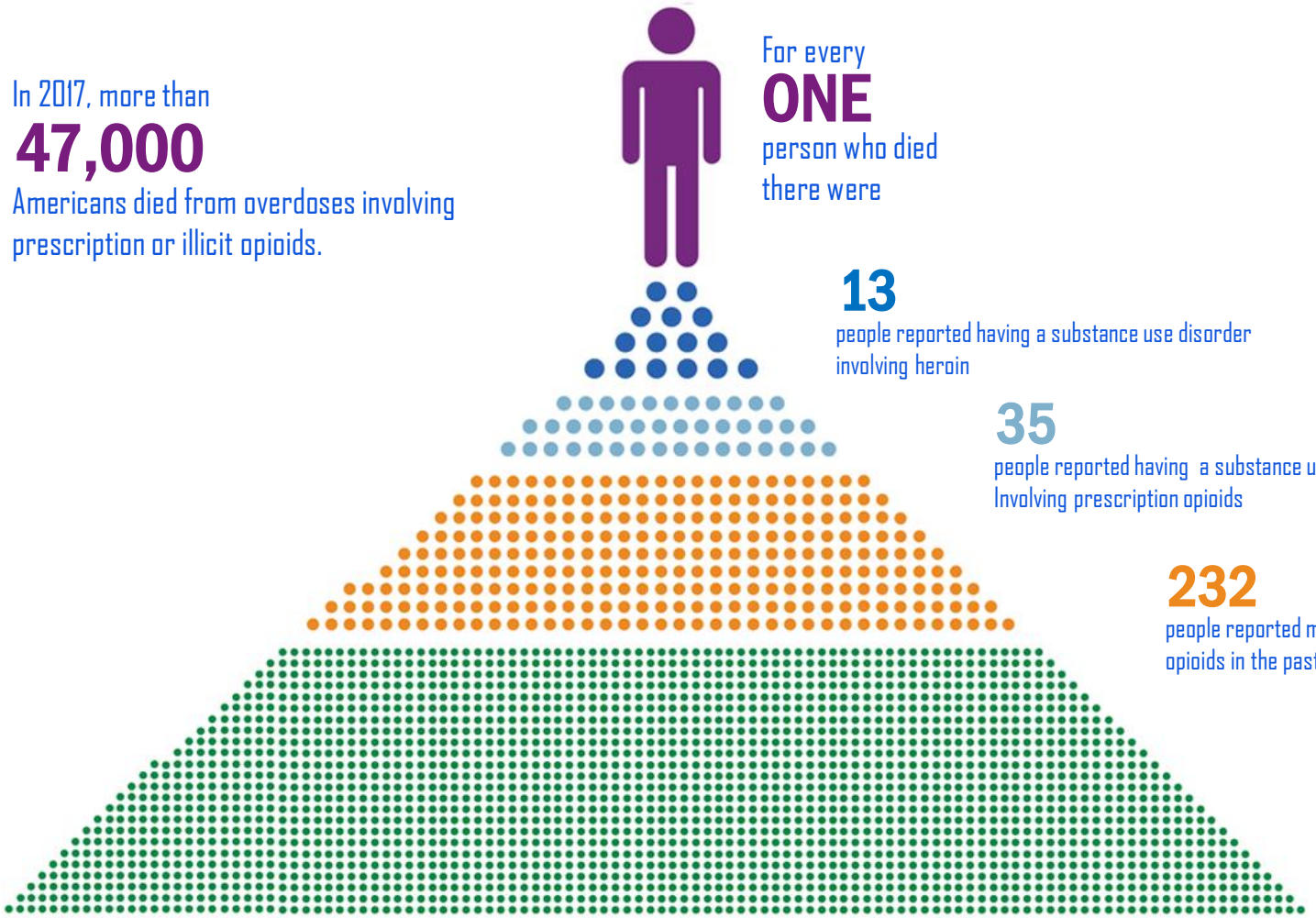
Rise in Cocaine and Psychostimulant Deaths in United States



SOURCE: National Vital Statistics System Mortality File

Looking Beyond Opioid Overdose Deaths

In 2017, more than
47,000
Americans died from overdoses involving prescription or illicit opioids.



For every
ONE
person who died
there were

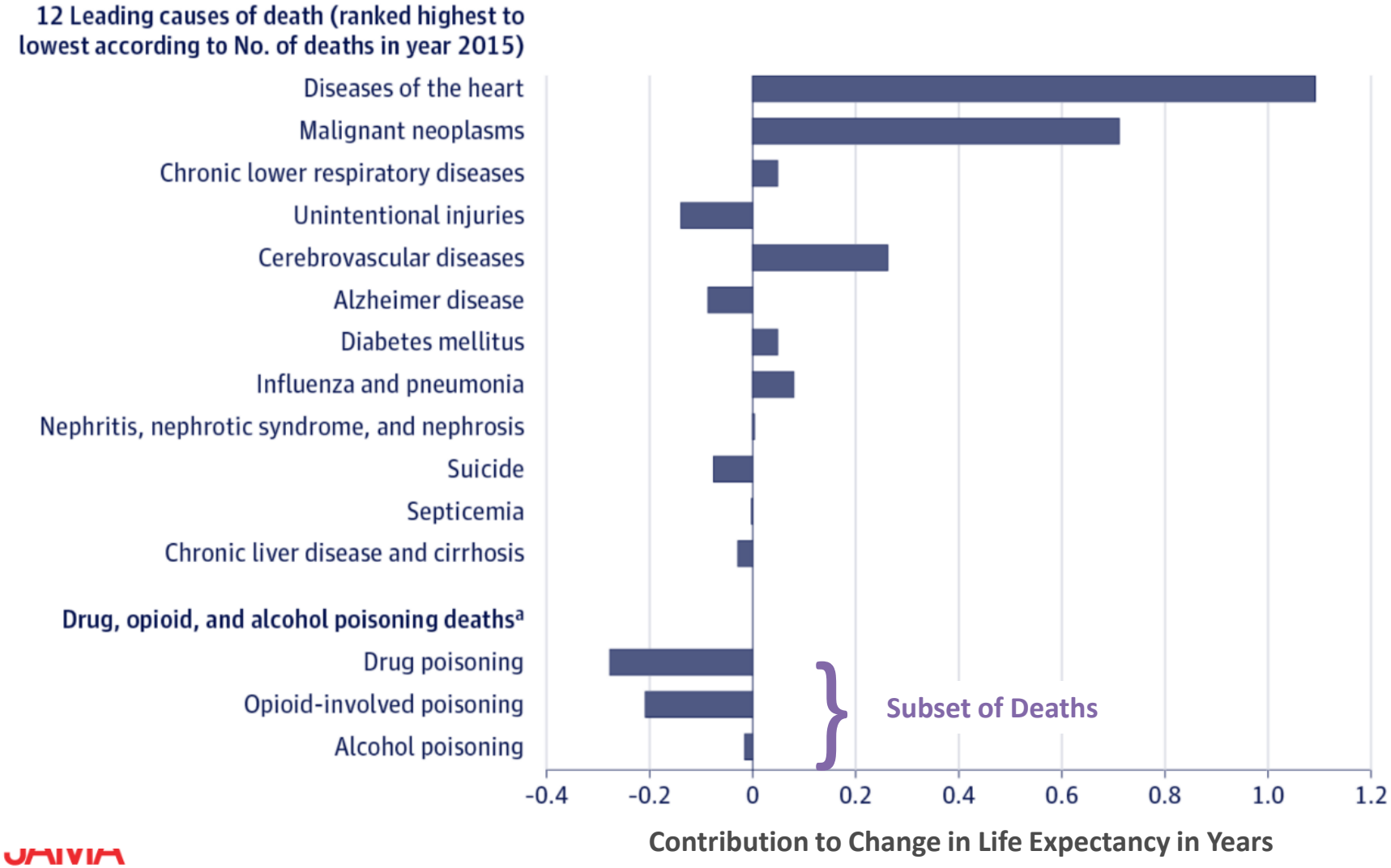
13
people reported having a substance use disorder involving heroin

35
people reported having a substance use disorder Involving prescription opioids

232
people reported misusing prescription opioids in the past year

1,907
people reported using prescription opioids in the past year

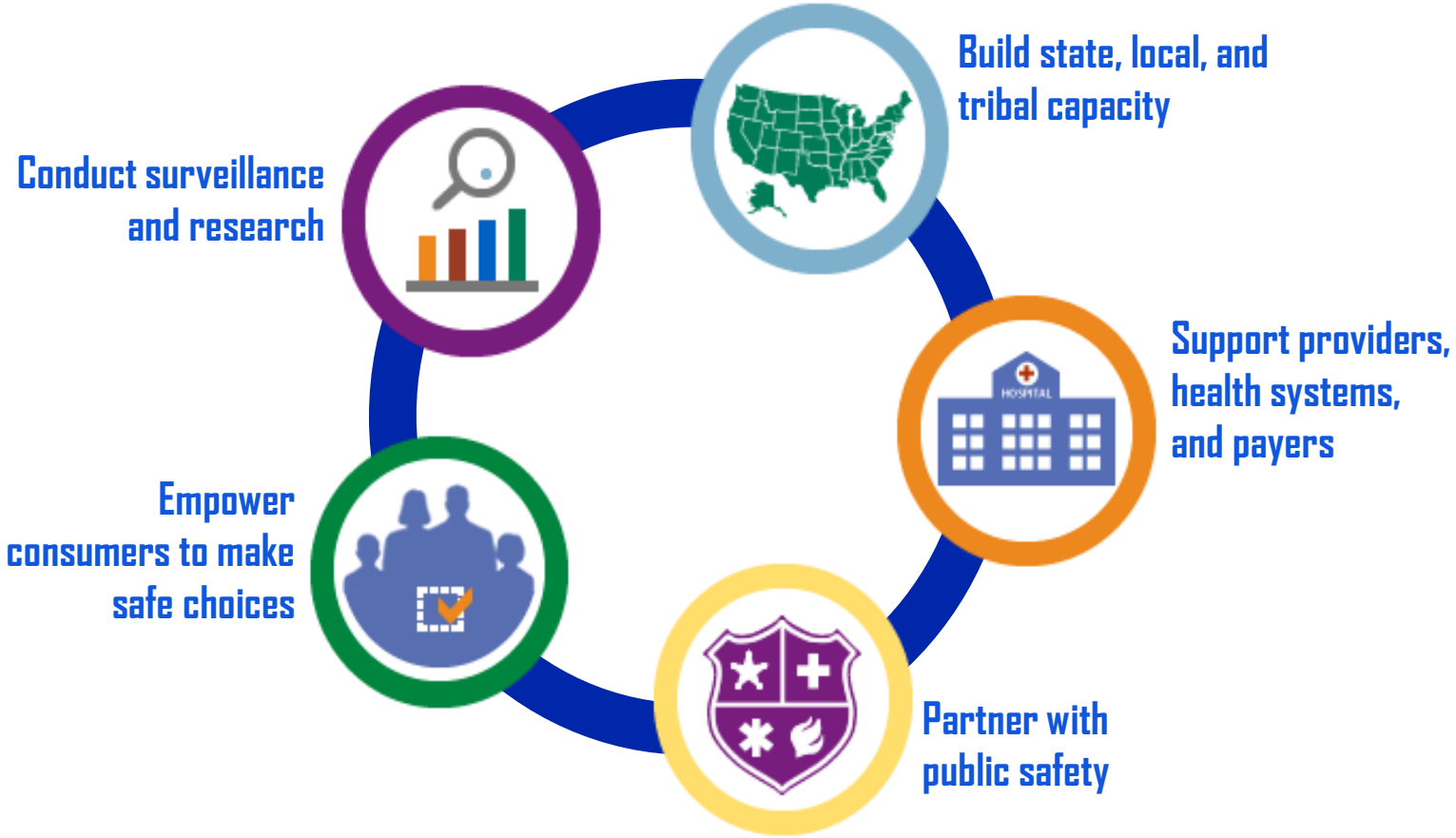
Opioid-involved poisoning has decreased U.S. life expectancy by over 2 months from 2000-2015



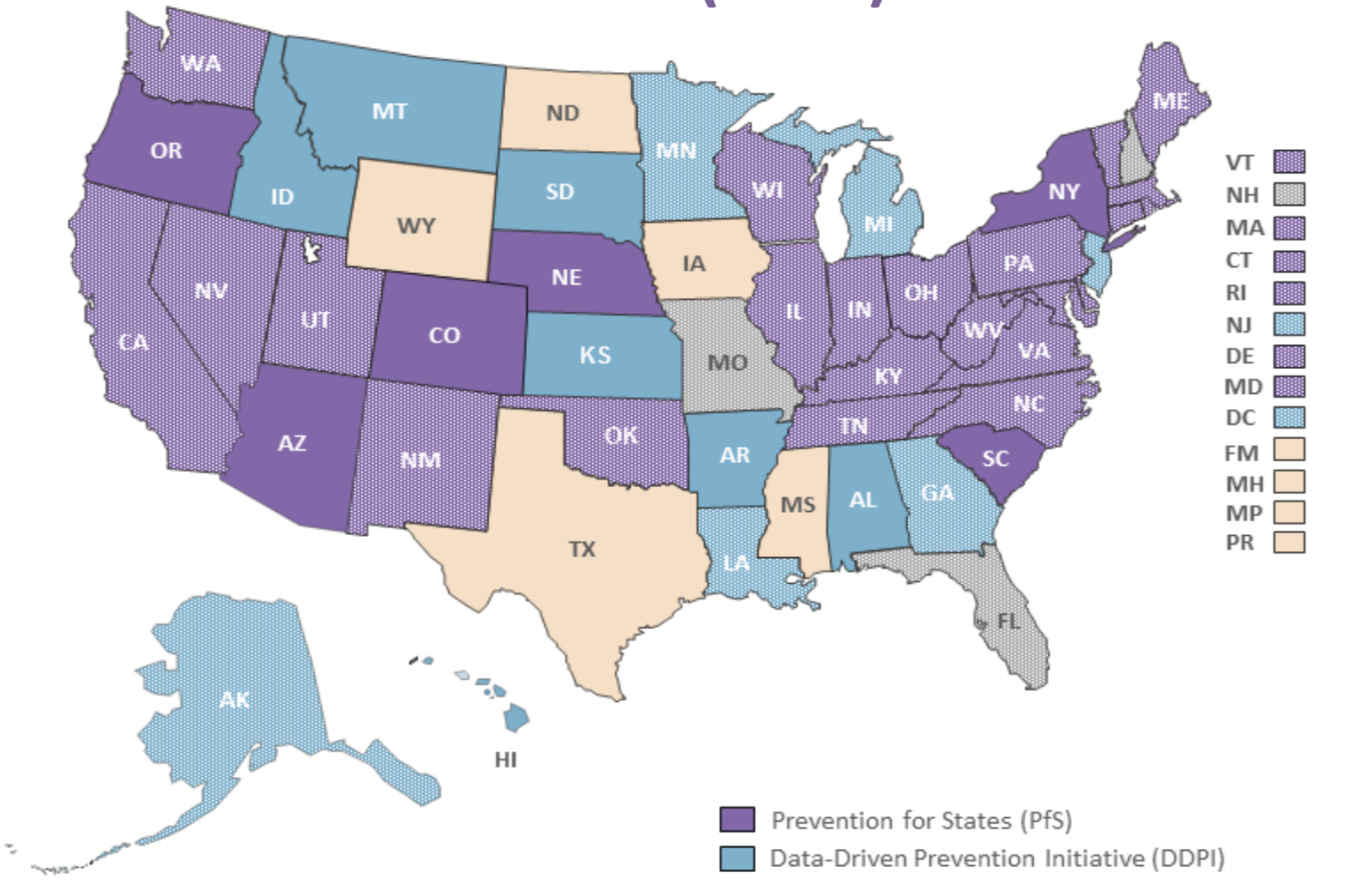
JAMA
The Journal of the American Medical Association

SOURCE: Dowell et al., 2017

CDC's Strategy to Prevent Opioid Overdoses and Opioid-Related Harms



Overdose Prevention in States (OPIS)



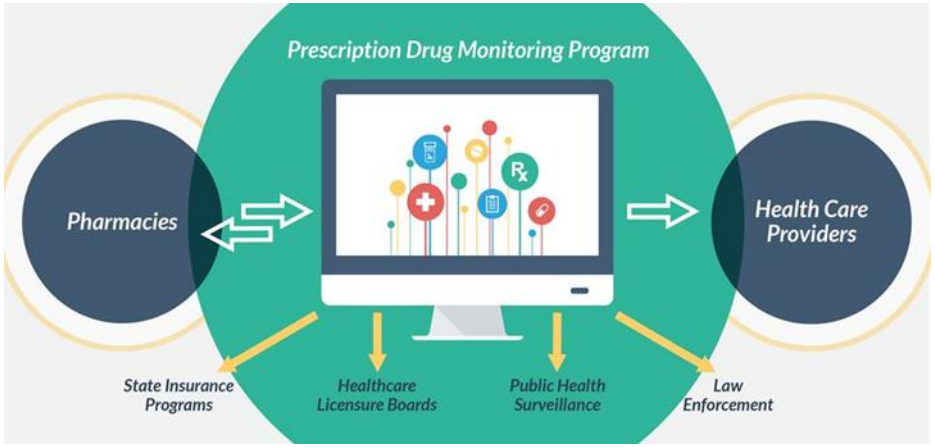
NOTE: All states receive OPIS S2 funds except Hawaii

More Timely, Localized, and Actionable Data

- Non-Fatal Data
  - Use syndromic surveillance and hospital billing data to establish an early warning system to detect sharp increases or decreases in non-fatal opioid overdoses.
- Fatal Data
  - Capture detailed information on toxicology, death scene investigations, and other risk factors that may be associated with a fatal overdose.
- Data for Action
  - Rapidly disseminate surveillance findings to key stakeholders working to prevent or respond to opioid overdoses

Prescription Drug Monitoring Programs

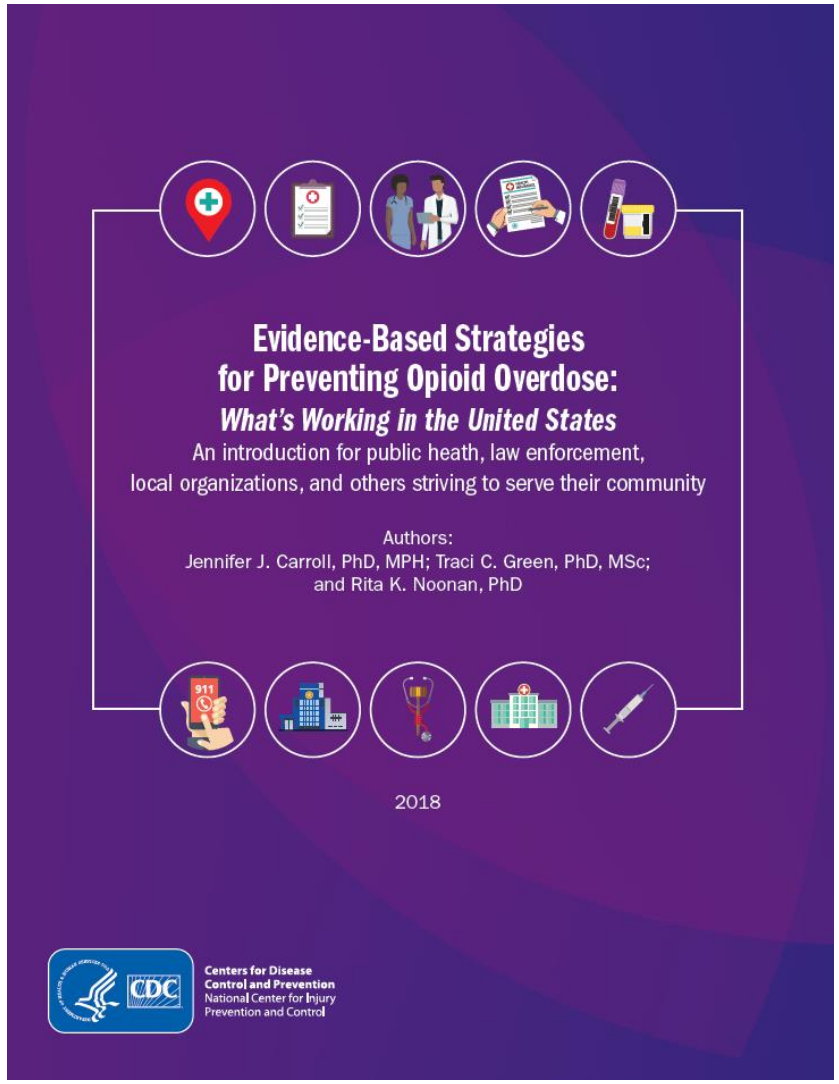
- Essential clinical decision support and public health surveillance tool



- Optimal components
  - Universal registration/use
  - Real-time reporting
  - Inter- and Intrastate integration

Evidence-Based Strategies for Preventing Opioid Overdose: What's Working in the United States, 2018

- Consolidates best evidence currently available on 10 opioid overdose prevention strategies.
- Topics span:
  - naloxone distribution,
  - medication-assisted treatment,
  - clinical programs, and
  - community programs
- Offers relevant research and examples of effective strategies being used in United States



https://www.cdc.gov/drugoverdose/pdf/pubs/2018-evidence-based-strategies.pdf

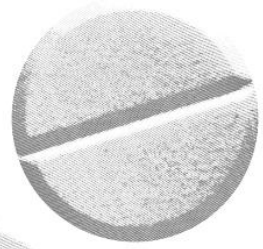
Integration of State and Local Efforts

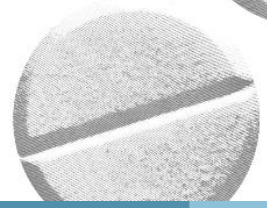
- The epidemic unfolds at the local level
- Innovation often comes from the local level
- State-level resources may be required for implementation
- States can support communication and partnership development

Linkage to Care

The amount
of opioids prescribed has
QUADRUPLED
from 1999-2014,

but the pain that
Americans report remains
UNCHANGED





Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Recommendations and Reports / Vol. 65 / No. 1
March 18, 2016

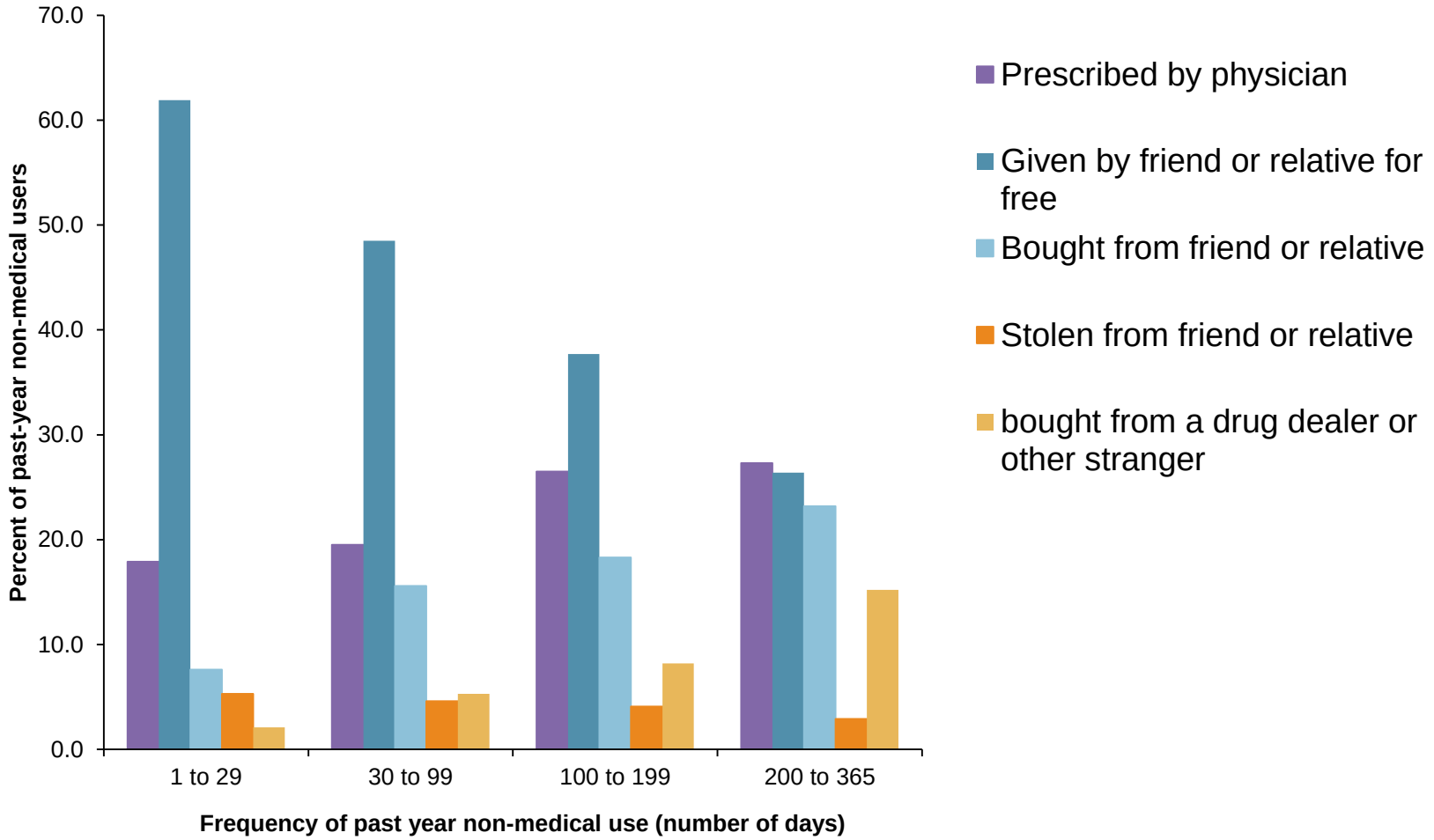
CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016

Continuing Education Examination available at http://www.cdc.gov/mmwr/cme/conted.html.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

- Primary care
- Patients > 18 Years with chronic pain
- Outpatient settings
- Outside of active cancer, palliative, and end of life care

Doctors are the most common source of opioids for most frequent nonmedical users



Jones CM, Paulozzi LJ, Mack KA. (2014)

Organization of Guideline Recommendations

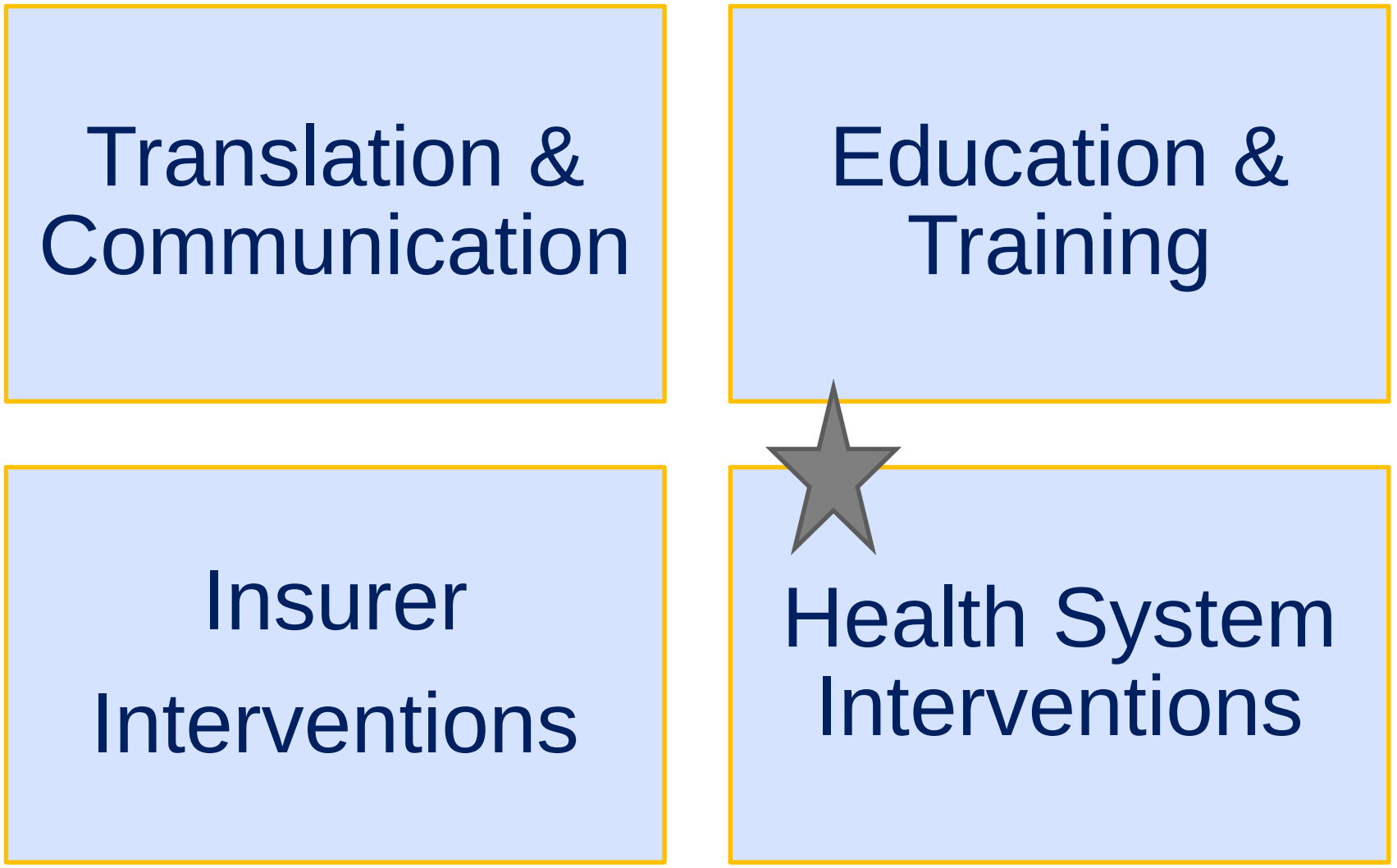
12 recommendations grouped into 3 conceptual areas:

Determining when to initiate or continue opioids for chronic pain

Opioid selection, dosage, duration, follow-up, and discontinuation

Assessing risk and addressing harms of opioid use

Comprehensive Implementation Approach for the CDC Prescribing Guideline



Opioid prescribing in the United States before and after publication of the CDC's 2016 guideline for prescribing opioids for chronic pain

Annals of Internal Medicine ORIGINAL RESEARCH

Opioid Prescribing in the United States Before and After the Centers for Disease Control and Prevention's 2016 Opioid Guideline

Amy S.B. Bohnert, PhD, MHS; Gery P. Guy Jr., PhD, MPH; and Jan L. Losby, PhD, MSW

Background: In response to adverse outcomes from prescription opioids, the Centers for Disease Control and Prevention (CDC) released the *Guideline for Prescribing Opioids for Chronic Pain* in March 2016.

Objective: To test the hypothesis that the CDC guideline release corresponded to declines in specific opioid prescribing practices.

Design: Interrupted time series analysis of monthly prescribing measures from the IQVIA transactional data warehouse and Real-World Data Longitudinal Prescriptions population-level estimates based on retail pharmacy data. Population size was determined by U.S. Census monthly estimates.

Setting: United States, 2012 to 2017.

Patients: Persons prescribed opioid analgesics.

Measurements: Outcomes included opioid dosage, days supplied, overlapping benzodiazepine prescriptions, and the overall rate of prescribing.

Results: The rate of high-dosage prescriptions (≥90 morphine equivalent milligrams per day) was 683 per 100 000 persons in January 2012 and declined by 3.56 (95% CI, −3.79 to −3.32) per month before March 2016 and by 8.00 (CI, −8.69 to −7.31) afterward. Likewise, the percentage of patients with overlapping opioid and benzodiazepine prescriptions was 21.04% in January 2012 and declined by 0.02% (CI, −0.04% to −0.01%) per month before the CDC guideline release and by 0.08% (CI, −0.08% to −0.07%) per month afterward. The overall opioid prescribing rate was 6577 per 100 000 persons in January 2012 and declined by 23.48 (CI, −26.18 to −20.78) each month before the guideline release and by 56.74 (CI, −65.96 to −47.53) per month afterward.

Limitation: No control population; inability to determine the appropriateness of opioid prescribing.

Conclusion: Several opioid prescribing practices were decreasing before the CDC guideline, but the time of its release was associated with a greater decline. Guidelines may be effective in changing prescribing practices.

Primary Funding Source: CDC.

Ann Intern Med. 2018;169:367-375. doi:10.7326/M18-1243 Annals.org
For author affiliations, see end of text.
This article was published at Annals.org on 28 August 2018.

Harms due to opioid medications increased dramatically during the 2000s and early part of the 2010s in the United States. Fatal overdoses from natural and semisynthetic opioids increased from 1.0 per 100 000 adults in 1999 to 4.4 per 100 000 in 2016 (1). Concurrent increases occurred in opioid-related emergency department visits (2), the prevalence of opioid use disorders (3), and opioid prescribing for chronic pain (4), but nonmedical prescription opioid use decreased (3). Data from patients prescribed opioids (5–9) indicate a connection between prescribing practices and opioid-related harms and a need to optimize opioid prescribing.

A common strategy for changing clinician behavior is the release of practice guidelines. Prominent examples of medication-focused guidelines are the Beers Criteria for Potentially Inappropriate Medication Use in Older Adults (10) and the Veterans Health Administration's Opioid Safety Initiative (11, 12). However, the ability of guidelines to change behavior may be limited (13), with cross-condition reviews indicating that practice changes in response to guidelines vary widely (14) and that limited implementation efforts often hamper effectiveness (15).

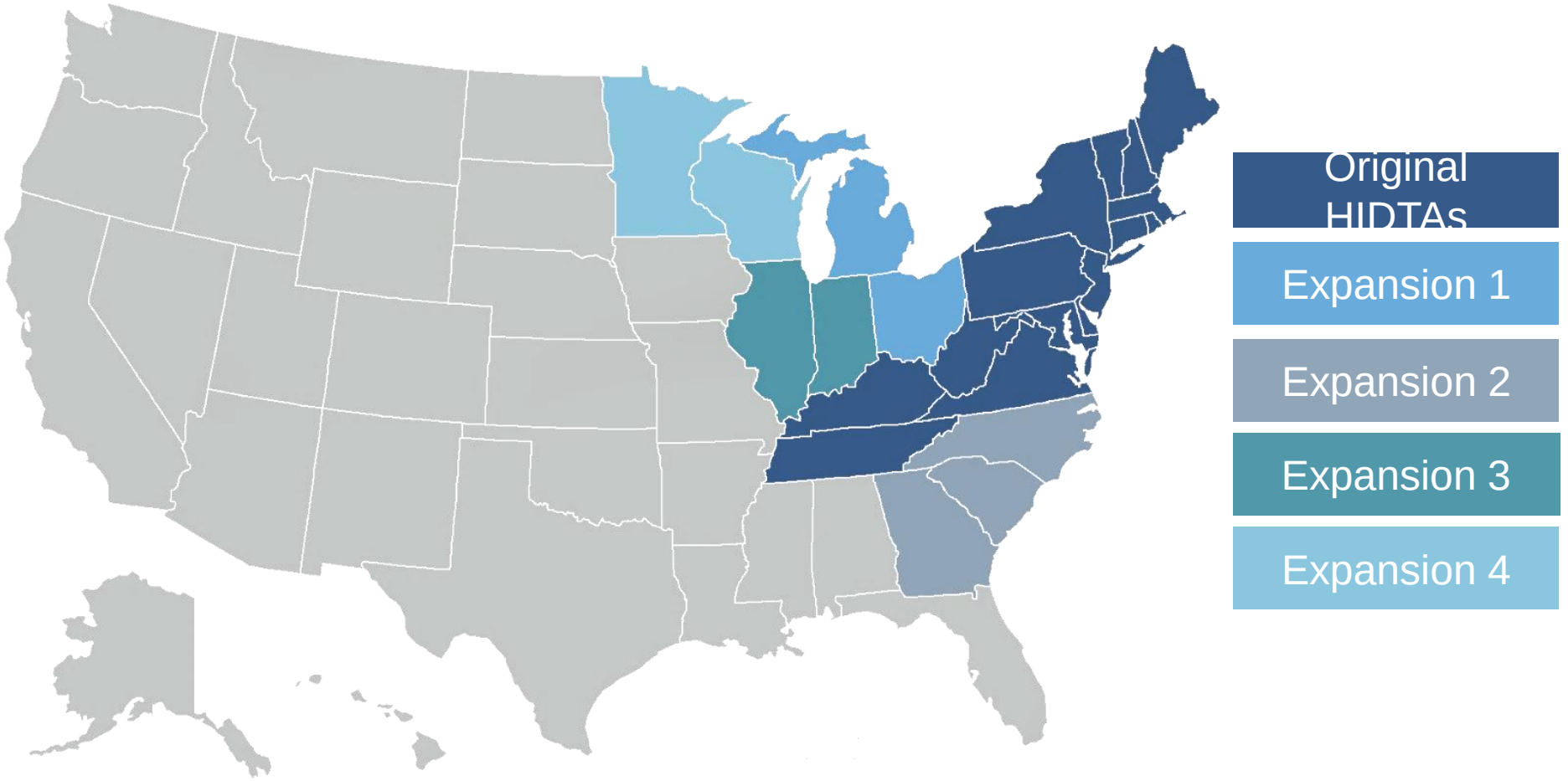
The Centers for Disease Control and Prevention (CDC) released the *Guideline for Prescribing Opioids for Chronic Pain* in March 2016 (16). The CDC guideline recommends evidence-based practices for opioid use for treating chronic pain—excluding cancer treatment, palliative care, and end-of-life care—in patients aged 18 years and older in primary care settings. Compliance is entirely voluntary. Compared with previous guidelines (17), the CDC guideline is broad reaching, as the result of a CDC-coordinated implementation strategy (18, 19). The purpose of this analysis was to assess temporal changes in opioid prescribing since the CDC guideline was released.

Methods

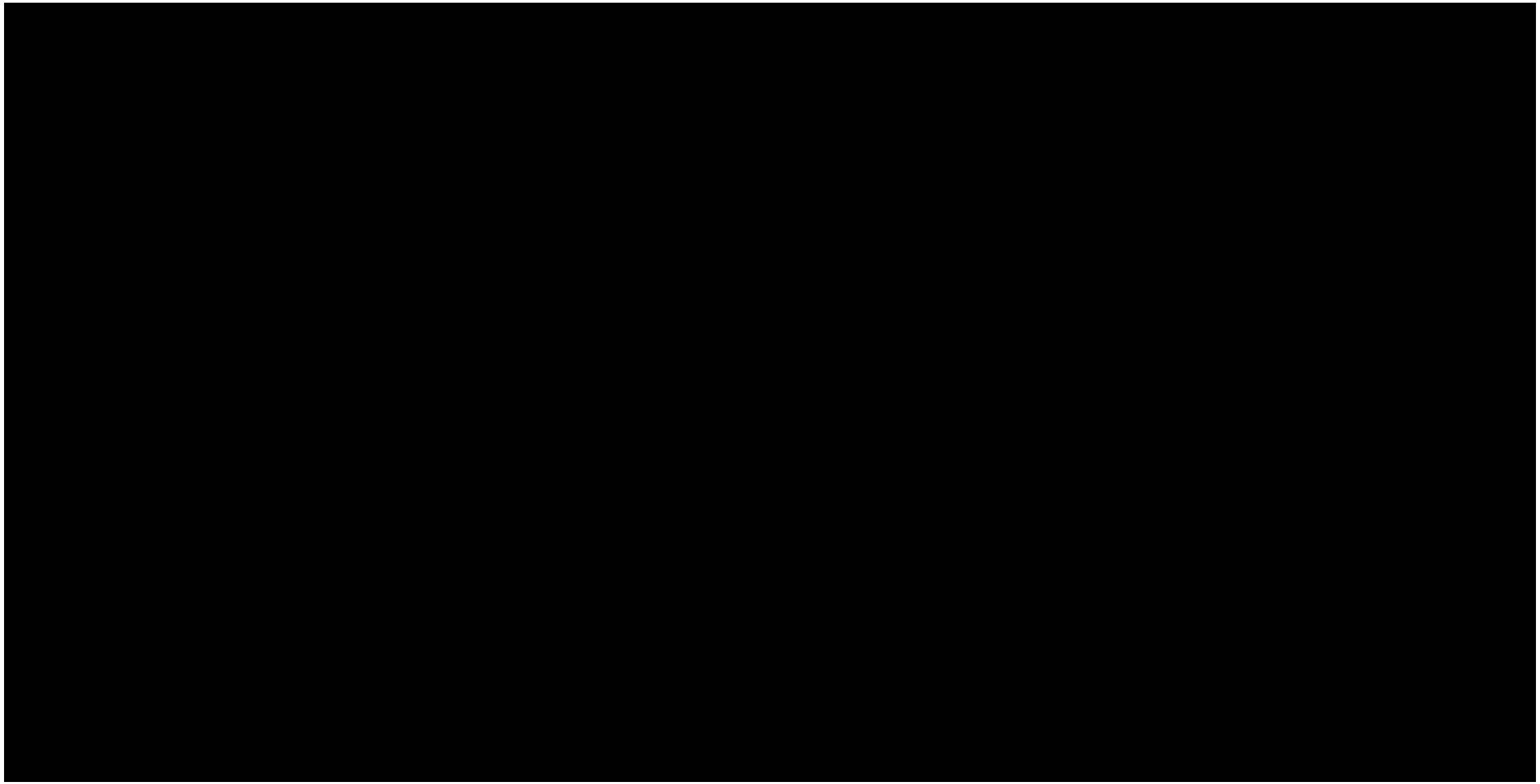
Study Design

This study consisted of interrupted time series analyses examining changes in opioid prescribing. This method is commonly used to determine whether the time at which a new policy or program was implemented is associated with changes in an outcome, which is measured continuously over time (20). It may be particularly useful for evaluating population-level interventions, such as in cases in which no control or comparison group is available. Each model tested whether the point at which the CDC guideline was released (March 2016) was associated with immediate increases or decreases (a change in the intercept) at the time of "interruption," a change in the trajectory over time (the slope) of prescribing metrics originating at the interruption, or both. This study was exempt from human subjects review.

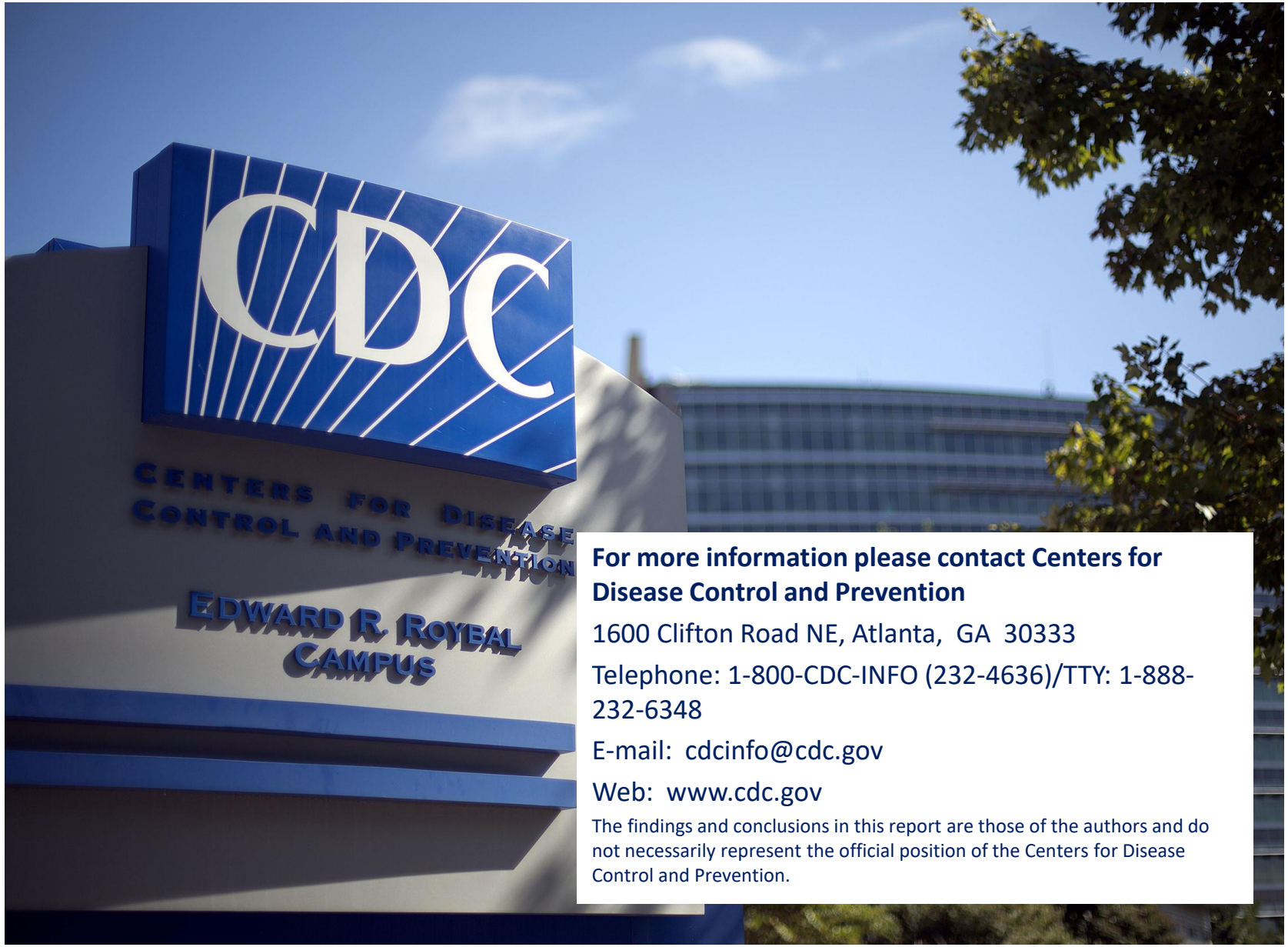
Public Health-Public Safety Partnerships: The Opioid Response Strategy Expansion



Rx Awareness Campaign



More Information



For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov

Web: www.cdc.gov