

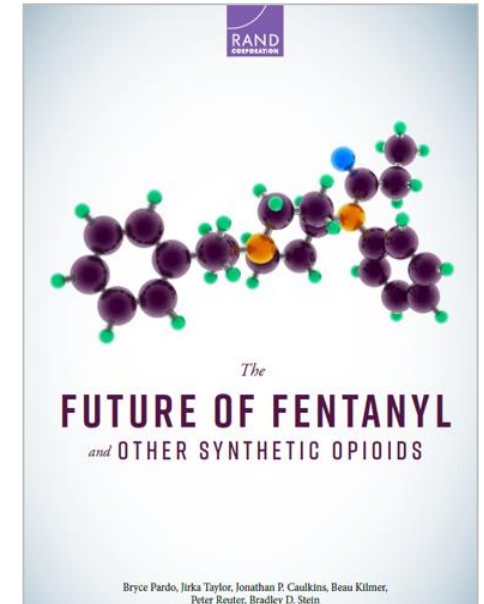
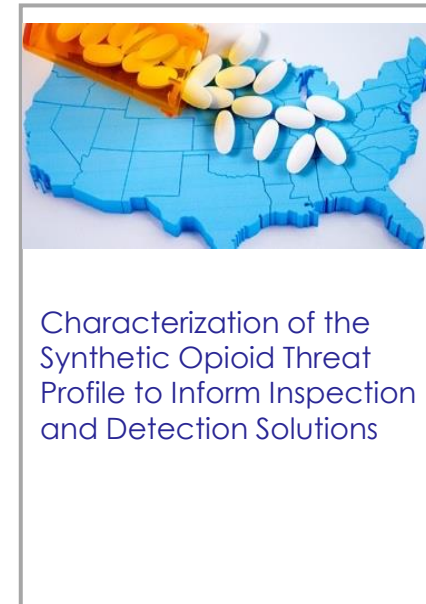
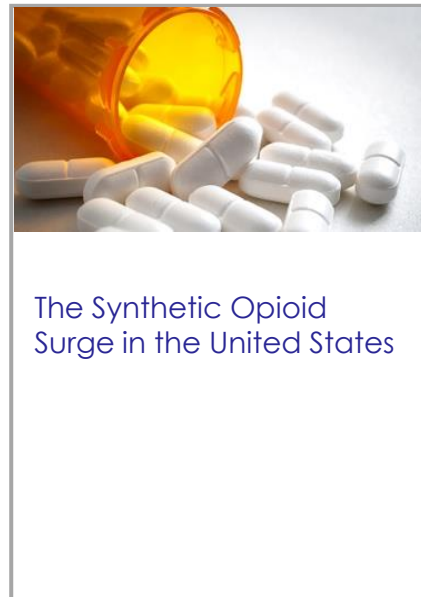
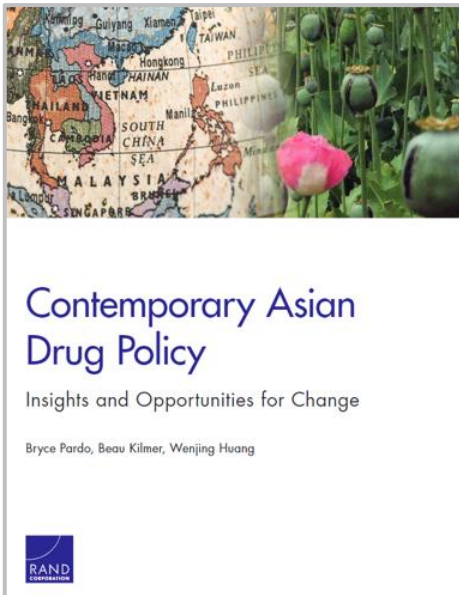
Illegally Manufactured Fentanyl: Understanding and mitigating the spread in the United States

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Background

- All data public and unclassified material
- No conflict of interest
- RAND has been studying this phenomenon since 2017



Free to download at <https://dprc.rand.org>

Outline

- What are synthetic opioids and why are they different?
- What is the current situation involving supply and demand?
- What does this mean?
- How to mitigate this outbreak?

What are synthetic opioids
and why are they different?

Synthetic opioids 101

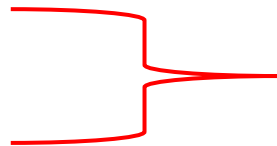
- Many synthetic opioids, but **illegally manufactured fentanyl** dominates in overdose and drug seizure data
- Not a single molecule
 - Methadone, tramadol, pethidine
 - Diverted prescription fentanyl
 - Fentanyl analogs
 - Non-fentanyl novel synthetic opioids
 - Non-pharmaceutical fentanyl



Illicitly/illegally manufactured

Why are synthetic opioids different?

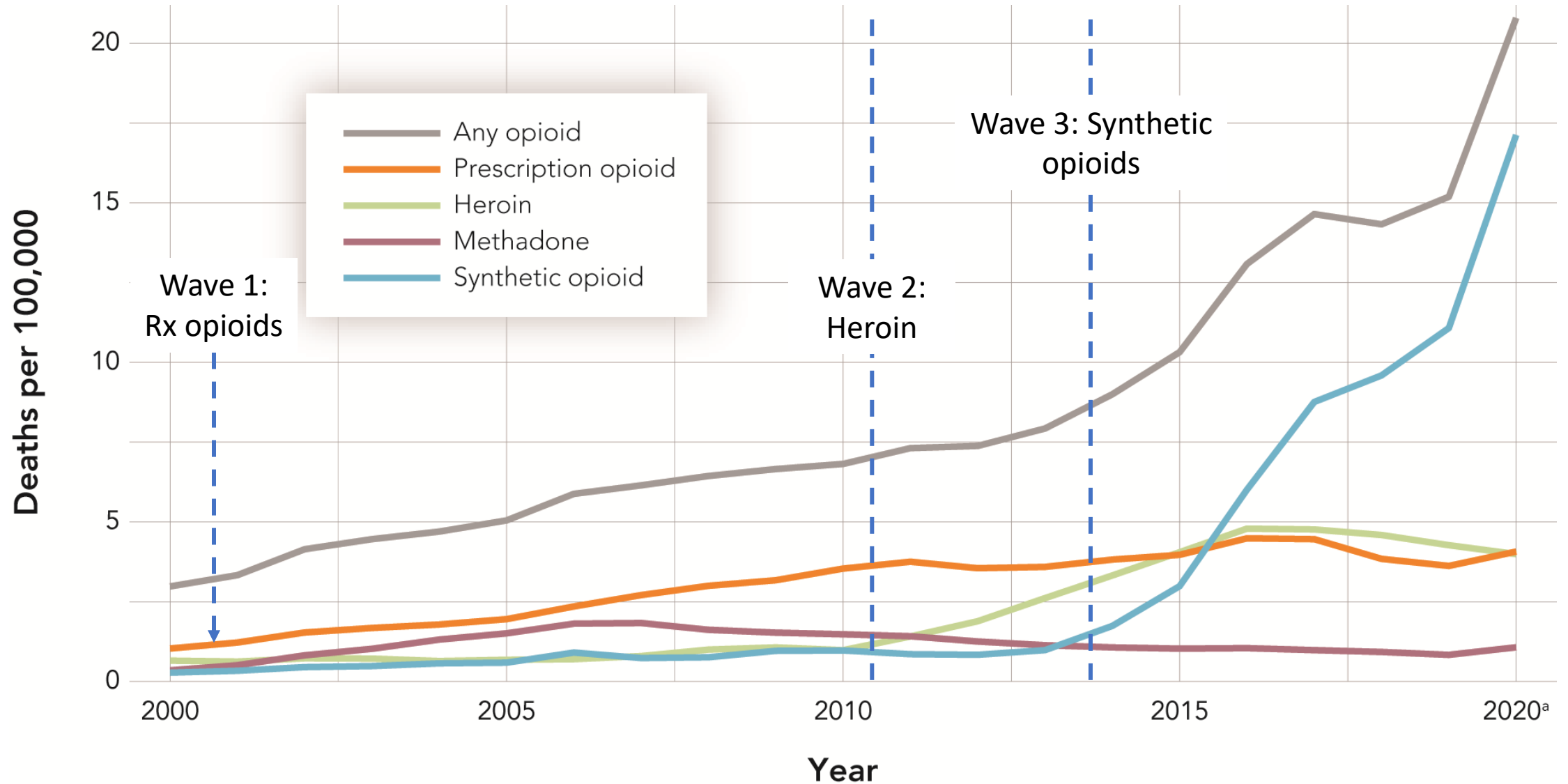
- Easy and cheap to produce (not derived from poppy)
- Illegally imported and distributed (including postal system)
- Orders of magnitude more potent
 - Extremely narrow room for error in dosing
 - Greater tolerance (and worse withdrawal)
- Sold as other drugs (e.g., counterfeit tablets)—deceiving buyers
- Cases of mixed with non-opioids, like cocaine
- Other physiological differences
 - Duration of effect (shorter than heroin)
 - Fast on-set
 - Chest wall rigidity



Reduces time of successful life-saving interventions

What are trends in supply and demand?

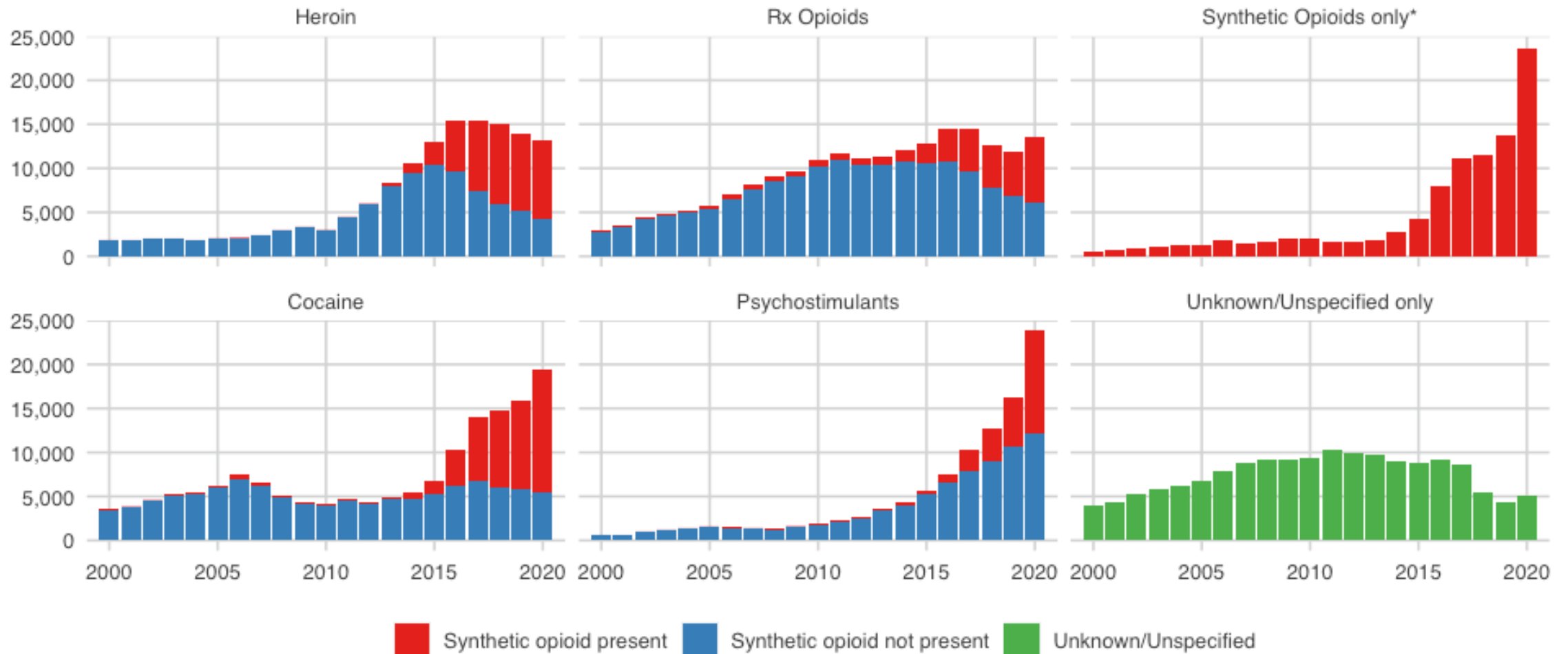
Deaths involving synthetic opioids have skyrocketed



SOURCE: Analysis of multiple-cause-of-death data (Wide-Ranging Online Data for Epidemiologic Research [WONDER], Centers for Disease Control and Prevention [CDC], "National Center for Health Statistics Mortality Data on CDC WONDER," last reviewed December 22, 2020).

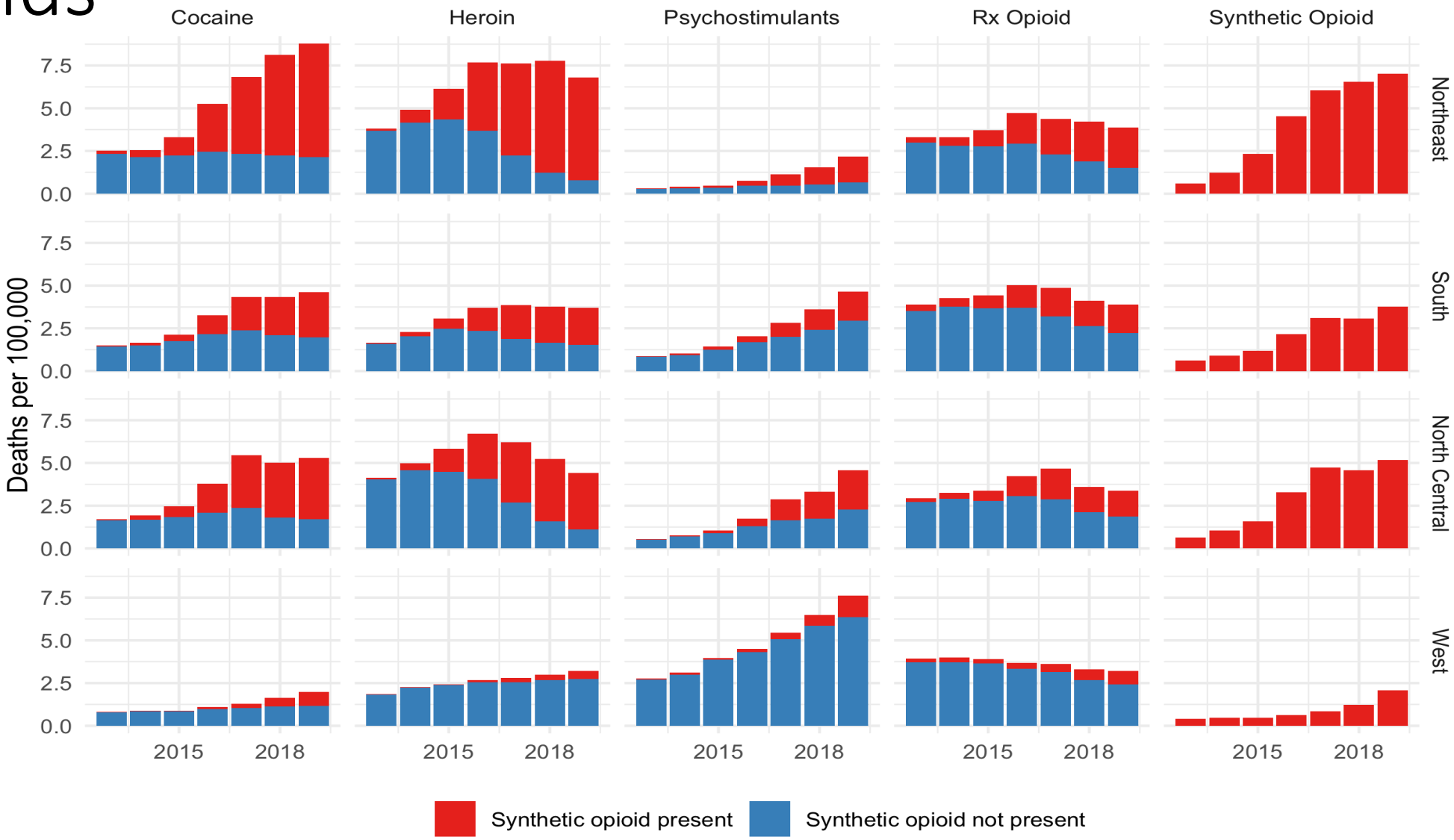
Poly drug overdoses many involving synthetic opioids, but fentanyl alone is causing many deaths

Cause of death according to CDC's National Vital Statistics System



*Excludes cocaine, heroin, Rx opioid, and psychostimulant deaths from synthetic opioid counts
Counts include all states, territories, and the District of Columbia

Regional variation in those dying from synthetic opioids

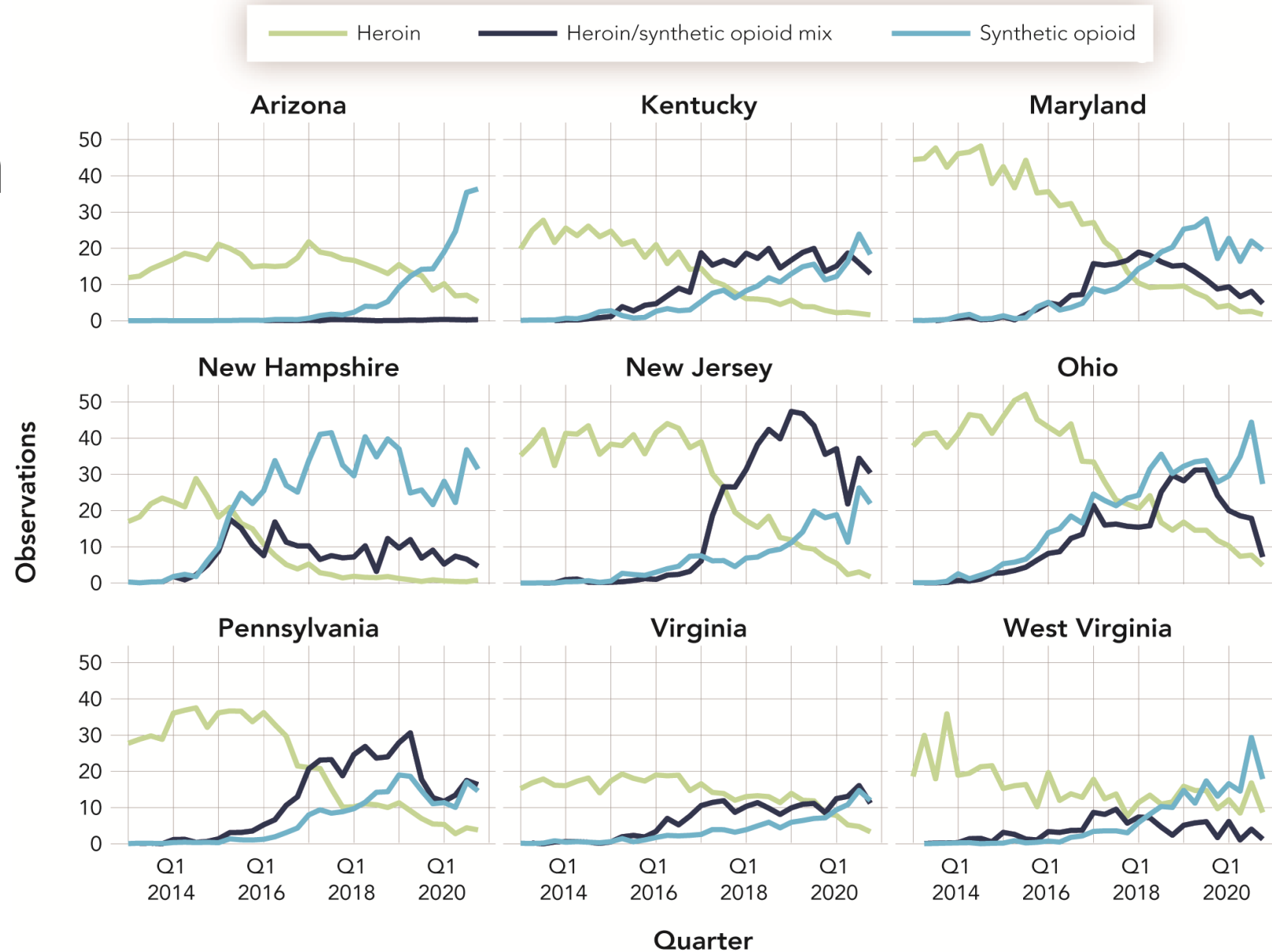


■ Synthetic opioid present
 ■ Synthetic opioid not present

NOTE: Overdose death data from NVSS Multiple Cause of Death Data
 *Excludes cocaine, heroin, Rx opioid, and psychostimulant deaths from synthetic opioids

Regional trends in supply of synthetic opioids, but heroin is disappearing in some places

Quarterly Seizure Observations per 100,000 Population for Heroin and Synthetic Opioids for Selected States

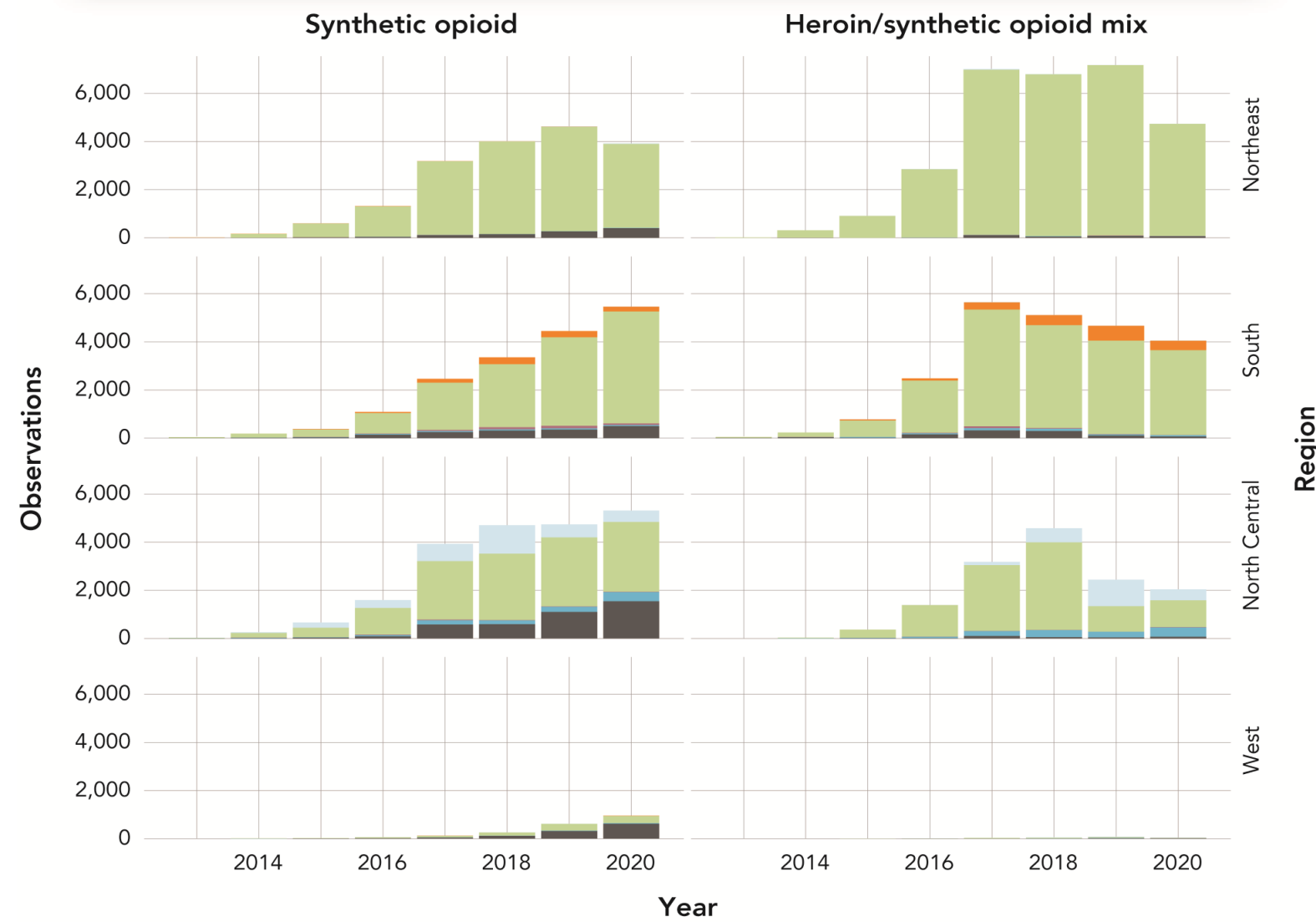


SOURCE: Analysis of National Forensic Laboratory Information System (NFLIS) data, 2013–2020 (NFLIS, “NFLIS-Drug,” undated).
NOTE: Q1 = quarter 1. States were selected based on recent increasing trends in overdoses involving synthetic opioids.

Retail-Level Synthetic Opioid and Heroin Seizures, by U.S. Census Region



Tablets and powders vary by region; West has few powder mixtures



SOURCE: Analysis of NFLIS data, 2013–2020 (NFLIS, “NFLIS-Drug,” undated).
 NOTE: Observations include only seizures of 1 g or less.

What does this mean?

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- Supply
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- Harm

- Chemical variation in markets elevates risks as users nor dealers know how to handle new drugs
- Counterfeiting or mixing with non-opioid drugs confuses markets
- New drugs may pose new harms and risks (possible new mechanisms of action)
- Need for more naloxone or other antagonists

How to respond:

State-level response

Policy considerations

- Improved monitoring of markets, such as wastewater analysis, enhanced drug and overdose analysis
- Reducing barriers to treatment, more innovative treatment (e.g., alternative injectable opioid agonist therapies, mobile methadone)

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- **Technological innovation**

- **Policy innovation**



Bottom-up policy interventions from local and state jurisdictions

1. Reducing exposure and risk

- Increasing transparency in markets
- Preventing and reducing unsupervised consumption
- Reducing barriers on medications to treat OUD (buprenorphine and methadone) and access to overdose reversal drugs (naloxone)
- Exploring alternative therapies (hydromorphone-assisted therapy)

2. Creative supply disruption

- Focused deterrence through overdose death investigations
- Targeting of counterfeit tableting operations
- Greater collaboration/information sharing with federal law enforcement

3. Monitoring and surveillance

- Seizure data provide rough overview and often lag (unlike Canada)
- Need to invest in more robust data infrastructure
- Collaborate with federal partners
- Wastewater testing!

Better to think of this as a poisoning outbreak rather than a drug epidemic

- Locate and minimize source of harm through innovative supply disruption
- Test potentially contaminated items to improve transparency in markets
- Control/prevent exposure by offering innovative harm reduction measures and greater treatment access
- Gather and analyze data to measure progress or other changes

Thank you

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