Modernizing the Mortality Data System --- Capturing Timely Opioid-related Death Data

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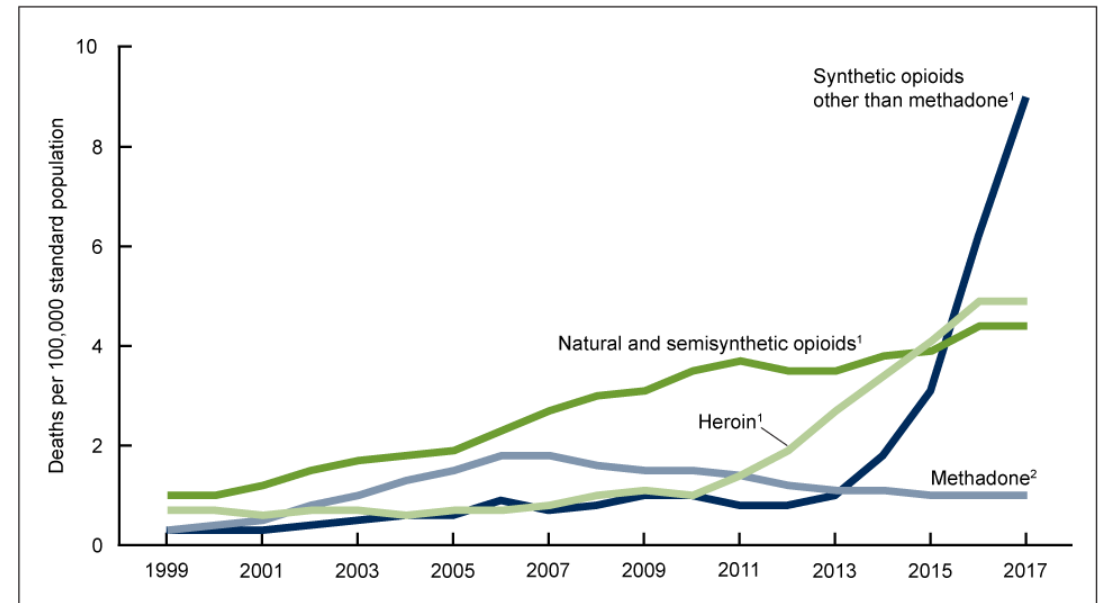NCHS Board of Scientific Counselors

Hyattsville, MD

September 5-6, 2019

Rise in Opioid Overdose Deaths

- Opioid overdoses have risen significantly over the past decade, accounting for more than 42,000 deaths by 2016 (five times higher than 1999)
- In 2017, the White House declared the opioid epidemic as a national public health emergency
- HHS responded with a 5-point strategy to combat the crisis
  - Better prevention, treatment and recovery services
  - Better data
  - Better pain management
  - Better availability of overdose-reversing drugs
  - Better research

Age-adjusted drug overdose death rates by opioid category: US, 1999-2017

[1]Significant increasing trend from 1999 through 2017 with different rates of change over time, $p < 0.05$.
[2]Significant increasing trend from 1999 through 2006, then decreasing trend from 2006 through 2017, $p < 0.05$.

Hedegaard H, Miniño AM, Warner M. Drug overdose deaths in the United States, 1999–2017. NCHS Data Brief, no 329. Hyattsville, MD: National Center for Health Statistics. 2018.

DVS funding received to address opioid mortality data quality and timeliness

- Patient-Centered Outcomes Initiative (PCORI)……………………………$2,613,000

  Strengthen opioid mortality data infrastructure for outcomes research

- CDC Opioid Response Coordinating Unit (ORCU) FY18 #1……….…$1,930,000

  Improve data processing and presentation within NCHS

- CDC ORCU FY18 #2……………………………………………………………………$5,900,000

  Improve data processing and sharing in the jurisdictions

- ORCU FY19………………………………………………………………………………$11,500,000

  Overall improvement of opioid overdose data in four areas:

  State infrastructure, data interoperability, NCHS IT, medical

  examiner/coroner processes

DVS projects undertaken to strengthen opioid overdose data

And thereby strengthen mortality data overall

Establish nationally approved HL7 FHIR standards for vital records death reporting

- Draft implementation guide developed: Vital Records Mortality Reporting FHIR IG

- HL7 Ballot Process: March-May 2019

- Connectathon trials of the balloted data standards beginning with HL7 FHIR Connectathon Sept 14-15, 2019

- Expand HL7 FHIR standard for mortality reporting to include
  - Data sent back to jurisdictions
  - Data obtained from medical examiners and coroners
- Continue to pilot test data standards

Create applications to test FHIR data standards

- Reference implementation of an EDRS: Nightingale Project
- Testing framework for the development of systems that perform FHIR-based exchange of data: Canary

- Award to develop reference implementation of Medical Examiner/Coroner case management system as well as the testing framework is being awarded this month

Modernize the technology capabilities of the National Vital Statistics System

- Incorporate natural language and machine learning techniques to increase the proportion of records that can be coded automatically for cause of death

- Create supplemental drug data, beyond ICD-10 coding, by mining the literal text fields of mortality records

- Transition the NVSS processing system from batch to one that can receive, code, and return cause of death codes as individual record transactions from states

National guidelines on death investigations, evaluations and certifications

- Update the guidelines produced by the National Association of Medical Examiners (NAME) in 2013

- Develop training materials and methodology for educating medical examiners and coroners about the new guidelines

- Develop recommendations for forensic toxicology practices for drug overdose investigation

- Expand ability to work with the medical examiner/coroner community

Redesign Vital Statistics Rapid Release Program

- Add additional demographic information to data releases

- Add detailed drug type information
- Publish papers documenting decision process

Align changes with needs of researchers and end-users

- Communications with researchers and users

- Presentations at national meetings to describe the project and solicit input

- PCOR work group of the NCHS Board of Scientific Counselors
  - Identify issues that will affect the usability and usefulness of drug overdose mortality data for the research community
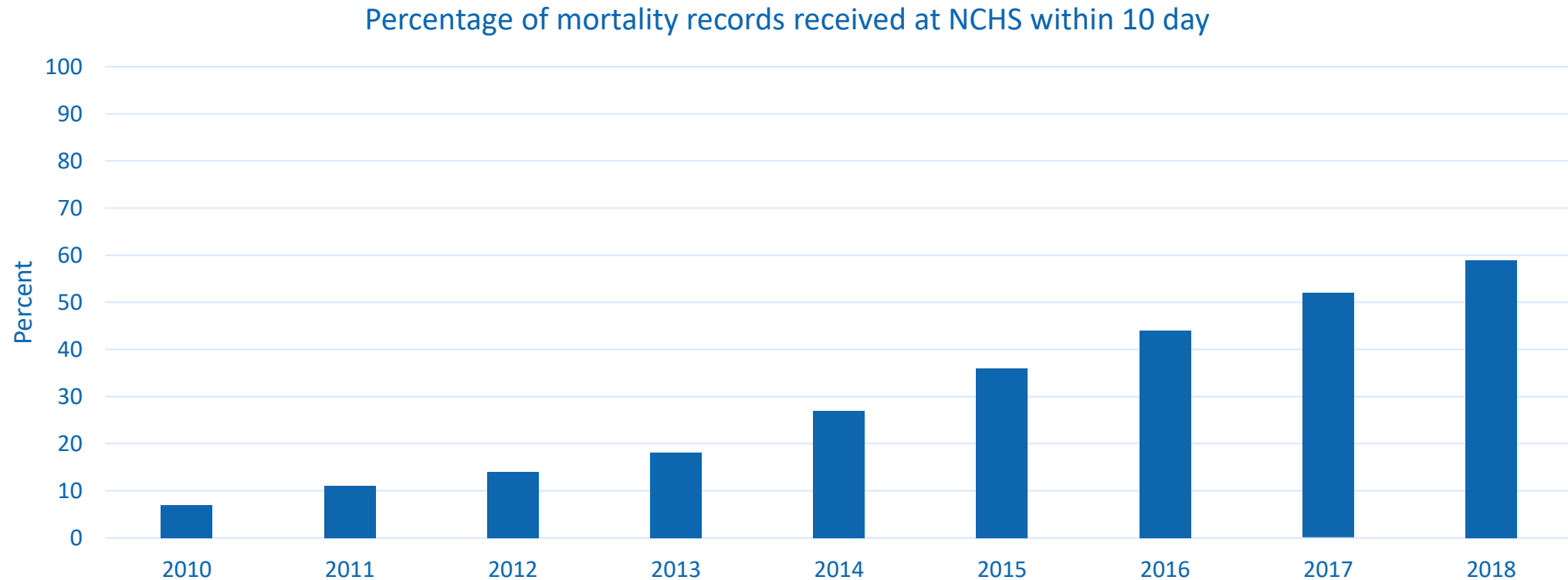
State projects: Enhancing electronic death registration system (EDRS) use and utility

- PCOR III: 2 states funded to pilot data interoperability

- ORCU FY18:

  - 4 additional states to pilot data interoperability

  - 10 states to work on projects on data timeliness

- ORCU FY19:

  - Establish EDRS in all 50 states, DC, NYC, several territories

  - 5 additional states to pilot data interoperability

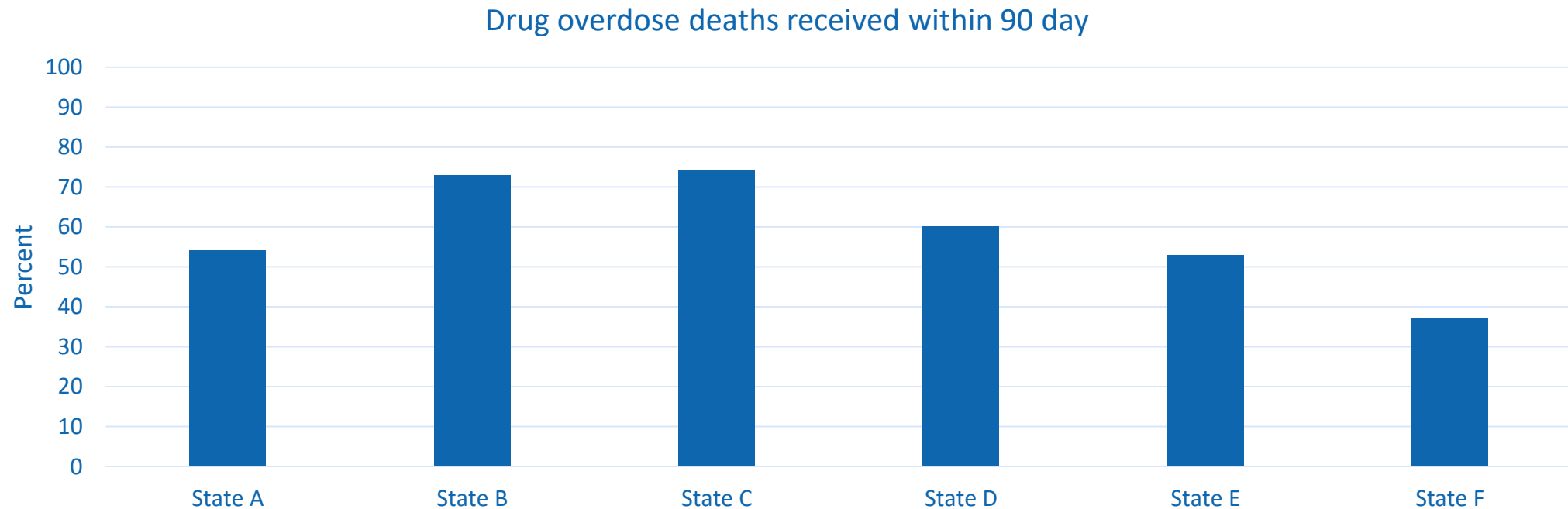 - 8 states to work on expanding the use of EDRS

State Goals for Timely and Accurate Data

- Goal #1: Transmit 80% of the mortality records to NCHS within 10 days of the date of the event

- Goal #2: Transmit 90% of the drug overdose deaths to NCHS within 90 days of the date of the event

Reporting timeliness of mortality data

Percentage of mortality records received at NCHS within 10 day

Percent of Drug Overdose Death Reported within 90 Days: Implementers' Community, 2018

Drug overdose deaths received within 90 day

Estimates are for 6 states in Implementers' Community. Data presented are first date that a death record was submitted and was codable as a drug overdose death. The measure being used is a rolling 12 month average with a 6 month lag. Report generated 7/3/2019.

State Projects to Increase Timeliness and Quality of Mortality Data

- Establish EDRS in all jurisdictions
    - Currently in 46 states, DC and NYC
    - New projects will support 6 new jurisdictions
- Promote FHIR-enabled interoperability of data
    - Currently supporting 6 jurisdictions to pilot FHIR interoperability
    - New projects in 5 additional jurisdictions
- Encourage increased efforts to improve timeliness
    - 10 jurisdictions working on variety of topics
- Expand use of EDRS within jurisdictions
    - 8 states with < 80% usage have newly funded projects

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