Module 3: Assess the Data Landscape

Presentation by Emily Kraus, MPH, PhD

Learning Objectives

- Identify and compare common opioid data sources and indicators including their strengths and limitations
- Explain the opioid surveillance challenges of ICD codes
- Describe next steps for accessing data from new or prioritized data sources

Questions to consider when designing opioid surveillance:

- How are opioids prescribed?
- Who uses opioids?
- Who misuses opioids?
- How many opioid overdoses and deaths occur?

Common sources of opioid surveillance data:

- *Death certificates (i.e. vital statistics)*
  - ICD-10 codes used to identify cause of death
    - Indicator: Drug and opioid overdose counts and rates
    - Strengths: systematic data collection, trends over time, county and national comparisons, demographic sub-groups
    - Limitations: only fatal overdoses, small numbers, under-reporting, difficult to discern intentional vs unintentional, numerous coding challenges
    - Coding challenges include: overdose deaths difficult to categorize, no way to specifically classify overdoses with multiple drugs/opioids, some newer opioids do not yet have coding
- *Coroner or medical examiner (C/ME) data*
  - Detailed investigation about circumstances of a death
    - Note: C/ME data varies by state laws
    - Strengths: quality and detail of death information
    - Limitations: Narrative or unstructured data are difficult to analyze, not all deaths investigated, sensitive data
- *Emergency department and hospital discharge data*
  - ICD-9-CM and ICD-10-CM codes specific to overdose, OUD, and adverse events
    - Strengths: captures non-fatal overdoses and adverse events, includes special populations (e.g. homeless), comorbid conditions
    - Limitations: data quality, subjective coding, ICD-9-CM to ICD-10-CM October 2015 transition, missing some fatal overdoses
    - Tips: assess primary vs. all cause codes, look to see if new hospitals begin contributing data in a given period, look to see how geocodes are created.
- *National Survey of Drug Use and Health*
  - Annual survey conducted in each state by SAMHSA; gives access to state-level data; comprehensive results report and tools are available.
  - Strengths: trends over time, comparison to other states, detailed substance specific questions
  - Limitations: no county data, delayed, excludes institutional and homeless, all questions not included every year

Creating an Action Plan for Opioid Surveillance

- *Prescription Drug Monitoring Programs*
    - Statewide electronic databases that track all controlled substance prescriptions
    - Providers and pharmacists access and individuals complete record of all reportable medications dispensed and doses
    - Strengths: complete longitudinal record, some PDMP's share data across states
    - Limitations: states determine which medications must be reported, can be difficult to access, extensive data cleaning, missing illicit drugs.
- Indicators
    - Commonly used indicators in opioid surveillance:
        - Opioid prescribing rate/days/dose per capita
        - Opioid use and misuse prevalence
        - OUD prevalence (self-reported)
        - OUD treatment estimates
        - Non-fatal drug overdose ED visits
        - Non-fatal drug overdose hospitalizations
        - Drug overdose mortality rate
    - Other, less common indicators to consider:
        - Multiple provider episodes
        - High dose opioid prescriptions
        - Overlapping Benzodiazepine/Opioid prescriptions
        - Population rate of Naloxone kit distribution
        - Population rate of Suboxone prescriber
    - Complexities accompany indicators, to gain a more complete understanding of such complexities, please reference the following table:

Prescribing	Use and Misuse	OUD and Treatment	Overdose	EMS
▪ Prescriptions can be sold, given away, or abused ▪ Heroin is not prescribed ▪ Not all providers use a PDMP ▪ Out of state patients	▪ Many take opioids as indicated ▪ Quantifying misuse is challenging, especially from prescribing data	▪ Treatment medications can be abused ▪ Fragmented treatment landscape ▪ Naloxone false positives	▪ Some overdoses undetected ▪ Some overdoses go untreated	▪ Many EMS coding standard version (NEMSIS) currently in use ▪ Require numerous overdose case definitions

Resources

- Data Source Inventory
- Data Inventory Worksheet