



**Department
of Health**

New York State Data Linkage Project

May 2024

Agenda

- Project Stakeholders
- Project Purpose
- Project Overview: Datasets & Linking Methods
- Project Logistics & Status
- Project Performance Measures
- Future Topics for Analyses
- Q&A

Project Stakeholders

- **New York State DOH:**

- Office of Science
- Office of Drug User Health
- Office of Health Services Quality and Analytics
- Bureau of Vital Records
- Bureau of Narcotic Enforcement
- Bureau of EMS

- **New York City DOHMH:**

- Bureau of Vital Statistics
- Bureau of Alcohol and Drug Use Prevention Care and Treatment

The Guidance Team was formed with representatives (SMEs) from each entity.

The Guidance Team:

- provides guidance and support on linkage and analysis activities
- reviews analytic results interpretations and recommendations
- assists with developing data products (e.g., Data-to-Action Reports, peer-review manuscripts)
- ensures OD2A grant deliverables
- advises on additional datasets and areas of interest for analyses and products

Project Purpose

Current status of data systems:

- NYS has robust *individual* data systems that provide *separate* information on drug and opioid prescribing, treatment, overdoses, morbidity and mortality
- These data systems are siloed and large information gaps remain
- There is no data linkage of these multiple systems

Project purpose is to:

- Identify a more complete picture of the opioid burden: estimation of OUD prevalence, emerging trends, high-risk populations and disparities
- Assess risk factors for non-fatal and fatal overdoses
- Evaluate MAT and associated factors
- Evaluate policy changes and monitor progress

Datasets for Linkages

- **NYS Mortality Data:** statewide mortality data for 2019 and after
- **Statewide Planning and Research Cooperative System (SPARCS) Data:** outpatient visits, ED visits and hospitalizations; statewide SPARCS data for 2019 and after
- **Prescription Monitoring Program (PMP) Data:** statewide data for 2019 and after
- **Emergency Medical Services (EMS) data:** statewide data for 2020 and after
- **Social Determinants of Health (SDoH) data (included in various data systems from above):**
 - Patient-level data on SDoH: source of payment, including Medicaid as a proxy for low-income, race and ethnicity, marital status and education. The individual level data will be associated with all linked records in all linked datasets.
 - Aggregated county and subcounty data for SDoH are available for all counties; the data will be linked to the datasets and evaluated in conjunction with the American Community Survey.

Data Linkage Methods

- Informatica Data Quality (IDQ) tool and SAS software:
 - data cleaning
 - standardization
 - deduplication
 - linkage
- Deterministic and probabilistic algorithms:
 - data matching (on first name last name DOB & gender variables)

Project Logistics & Status

Project Start Date: September 2023

Current Progress:

- Received IRB exemption
- Identified dedicated personnel and staff resources
- Established MOUs
- Setting up software and training staff
- Reviewing results from IDQ & SAS linkages
- Finalizing data linking methodology

Project Performance Measures

About Performance Measures:

- The measures will be aggregated and reported on a statewide level.
- The measures will include metadata: descriptions of the datasets linked, linkage procedures/methods including matching techniques and key variables, percentage of records successfully linked for each activity.

PM Group 1: Mortality Data & Nonfatal Overdose Data Linkage:

- % of people who **died of an unintentional or undetermined-intent drug overdose** with evidence of experiencing a **nonfatal overdose** within 12 months of the date of death.
- Number of nonfatal overdoses reported within 12 months before death, reported in aggregate as the median number and interquartile range.
- % of people who experienced a **nonfatal overdose who subsequently** experienced an unintentional/undetermined-intent **fatal overdose** within 12 months of the nonfatal overdose.
- Number of days between the **date of the fatal overdose** and the **date of the most recent nonfatal overdose** reported in aggregate as median number and interquartile range.

Project Performance Measures

PM Group 2: PDMP Data & Mortality Data Linkage

- % of people who had an unintentional or undetermined-intent fatal overdose who had a **controlled prescription for each** of the following: **an opioid pain reliever, buprenorphine, stimulant, benzodiazepine** within 12 months of the fatal overdose date.
- % of people who had an unintentional or undetermined intent fatal overdose who **had more than one prescription** for an opioid pain reliever, buprenorphine (if available), stimulant and/or benzodiazepine within 12 months of the date of the fatal overdose (e.g., % with an opioid and benzodiazepine prescription).

PM Group 3: PDMP Data & Nonfatal Overdose Data Linkage

- % of people who had a nonfatal overdose, who had a **controlled prescription for each** of the following: an opioid pain reliever, buprenorphine, stimulant and benzodiazepine within 12 months of the nonfatal overdose date.
- % of people who had a nonfatal overdose who had **more than one prescription** for an opioid pain reliever, buprenorphine (if available), stimulant and/or benzodiazepine within 12 months of the date of nonfatal overdose.

Future Topics for Analyses

Proposed topics include:

- Risk of subsequent overdoses among those with SUD non-fatal overdose and mental health disorders
- Identifying individuals with opioid and benzo Rx history (length and doses) and risk of OD
- Identifying individuals with active opioid Rx and doses around time of OD
- Identifying individuals with initiation of buprenorphine after OD; assessing probability of stopping buprenorphine over time and risk factors
- Identifying individuals with discontinuation of buprenorphine for OUD and risk of opioid OD
- Description of stimulant prescribing patterns and connection to ODs

Time for Q & A

Thank you!

Any questions?

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