

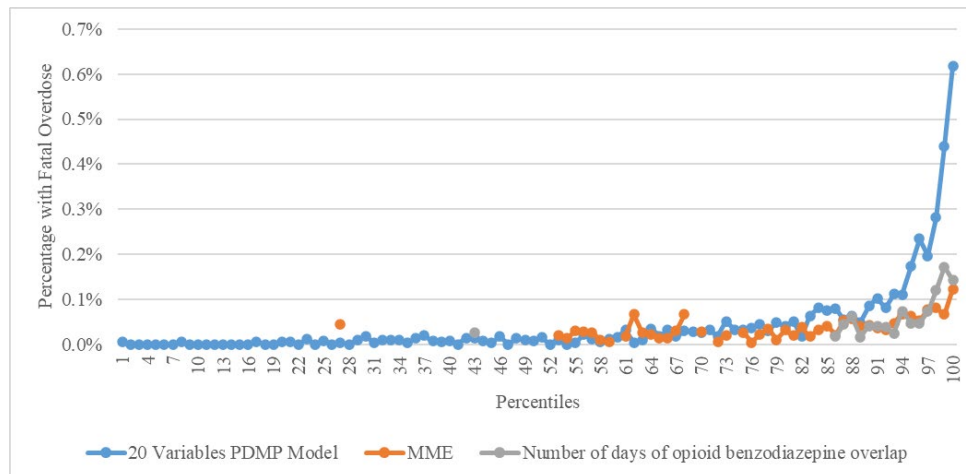
Predicting Overdose with Prescription Drug Monitoring Program (PDMP) Data

Why is this work important?

Prescription Drug Monitoring Programs (PDMPs) are active in all states, and nearly all states require prescribers to check the PDMP prior to opioid prescriptions, to ensure they are aware of all controlled substance prescriptions for a given patient. While many state PDMPs alert clinicians to dispensing factors or patterns that may indicate a patient has a higher risk of prescription misuse or overdose, these alerts vary in how they define high-risk and in their transparency in how they arrive at high-risk. **Experts have called for better models for predicting adverse outcomes related to opioids and substance use disorder.**

How did we develop our risk prediction model?

We linked PA PDMP with fatal overdose and de-identified EMS naloxone distribution and hospitalization data and created 81 predictor variables, including sociodemographics, patterns of prescription opioid use, patterns of other prescriptions, and prescriber and regional factors. Starting at a random index date after a prescription opioid fill, **our model predicts fatal overdose within the subsequent six months.**



Why is the Pitt CP3 model different?

- Our **overdose risk prediction model can run in real time** to avoid data lags.
- The model can **stratify individuals by risk to better target prevention activities.**
- We develop our model in a **true partnership** with stakeholders, including government agencies and health systems.
- Our **interprofessional team has a wide range of expertise** in community-based overdose prevention, medical care, health services, and data science.
- We **integrate** PDMP and death certificate records.
- Our model **accounts for complex interactions among a variety of factors**, and we are **always transparent** about model creation.

How can I learn more about using PDMP records to help prevent overdose?

Our team is happy to consult with you to discuss how we can work together to create a predictive risk model with your data. Please email cp3@pitt.edu to set up a time to meet. For more information on this and our other risk prediction projects, please visit [our website](#).