



# Arkansas Department of Health

## Creating an Innovative Structured Data Repository

DOJ/BJA Harold Rogers Prescription Drug Monitoring Program Grant

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# Time Line

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- Grant awarded---October 2018
- Special Condition 45
- Sub-grant to University of Arkansas for Medical Sciences
- Project start date---mid July 2019
- Year 3 extension??

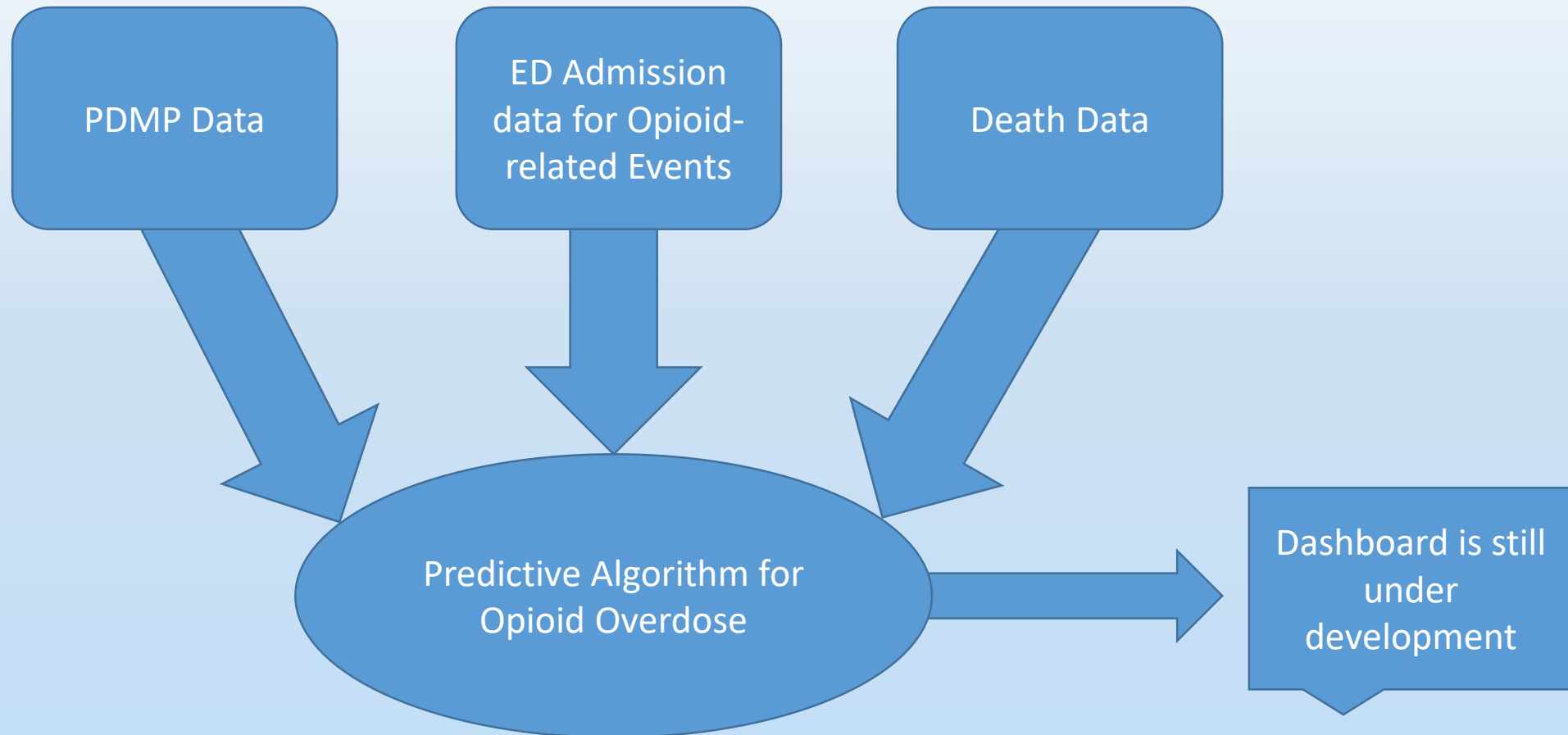


# Program Goals

- 1. Create a data repository that links PDMP data, ED/hospitalization data and death certificates using semantic integration**
  - ADH collects all the data sets
  - Working with UAMS-based scientists with expertise in biomedical informatics
  - Linking multiple data sets into one set
    - Drug Ontology to map multiple data sets
    - Store in Resource Description Framework technology
    - Merge 3 data sets using Linkage Wiz software



# Diagram of Opioid Overdose Algorithm Development



# Program Goals

## 2. Develop a risk prediction tool for identifying individuals at risk for opioid overdose using the linked data sets

- Data from 2014-2017

- 50% data “training” sample; 50% data “validation” sample

- Patient and Clinical Demographics

- Age, race, gender, geographical, physical/mental/substance abuse comorbidities

- PDMP prescription data (ingredient, day supply, MME, other controlled medications)



# Program Goals

## 3. Create a graphical user interface for the linked databases and risk prediction tool.

- Programming software (Python) used to create graphical display of the data
- Data updated quarterly with each data deposit from Arkansas pharmacies
- Other possible reports
  - Rates for those at high risk for OD per 100 persons in each county
  - Overlay geographical OD rates with geographical high prescribing rates
  - Mapping of pharmacies and ED/hospitals most commonly used by high risk patients



# Program Goals

## 4. Collaborate with PDMP Advisory Committee and other stakeholders to implement tool

- **Primary use will be for PDMP to target providers caring for high risk patients.**
  - Use likely to be similar to current system of sending provider-specific reports to educate providers about their own prescribing habits
- **Other uses:**
  - Guide resource deployment such as naloxone kits, academic detailing, take-back programs, public information campaign



# Current Status

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- All Data extracted
- Data sets are linked
- Inspecting samples of the linked data sets
- Ontology in process





# Contact Information

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