BJA's Comprehensive Opioid, Stimulant, and Substance Abuse Program

BJA Bureau of Justice Assistance U.S. Department of Justice

2021 Virtual COSSAP National Forum

COSSAP 2021: New Partners, New Tools, Renewed Hope

November 16–18, 2021

Creating an Innovative, Structured Data Repository

Arkansas Department of Health Prescription Drug Monitoring Program

(AR PDMP)

Dr. Jamie Turpin, PharmD

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Learning Objectives

- After this session, participants will be able to:
- Learn about the collaboration between the Arkansas Department of Health and the University of Arkansas for Medical Sciences to develop a risk assessment tool utilizing various data sets.

Creating an Innovative Structured Data Repository

Fiscal Year (FY) 2018 Harold Rogers
Prescription Drug Monitoring Program Grant

Dr. Jamie Turpin, PharmD

November 2021

AR~~rkansas~~ PDMP

- The AR PDMP is housed in the Arkansas Department of Health
  - Substance Misuse and Injury Prevention Branch (SMIP)
    - Injury and Violence Prevention Section
      - Suicide Prevention/Arkansas Prevention Suicide Lifeline
      - Arkansas Violent Death Reporting System
      - Violence Prevention
      - Motor Vehicle Crash Prevention
      - Accidental Poisoning
    - Substance Misuse Education and Prevention Section
      - DOSE OF REALITY in community events, schools, organizations
      - Narcan training for first responders, crisis centers, shelters, etc.
      - Prescriber Education—University of Arkansas for Medical Sciences (UAMS) Academic Detailing
    - Prescription Drug Monitoring Program Section

Timeline

- Grant awarded—October 2018
- Special Condition 45
- 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**
   - Arkansas Department of Health (ADH) collects all the data sets but in different programs
   - Science Advisory Committee approval
   - Memorandum of agreements to merge data sets
   - Working with UAMS-based scientists with expertise in biomedical informatics
   - Linking multiple data sets into one set using Linkage Wiz software

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)

Data Analysis

- UAMS researchers identified prescription trends prior to an overdose based on PDMP data
- Metrics Identified:
  - number of benzodiazepine prescriptions
  - number of unique prescribers
  - schedule II long-acting opioid
  - number of pregabalin prescriptions
  - number of oxycodone prescriptions
  - number of morphine prescriptions

Publications

- **Evaluating the Temporal Association Between the Recency of Prescribed Controlled Substance Acquisition and Fatal and Non-Fatal Opioid Overdoses**
  - Poster presented at Virtual ISPOR 2021
  - By UAMS researcher Dr. Allen Smith
  - The association was identified during the data analysis of the merged data sets for the risk assessment tool
  - Conclusion:
    - “Though the vast majority of persons accessing controlled substances identified in the PDMP do not experience an overdose, a sizable proportion of the persons that experience an overdose obtained controlled substances immediately prior to their overdose highlighting the risk of prescribed opioids.”

Program Goals

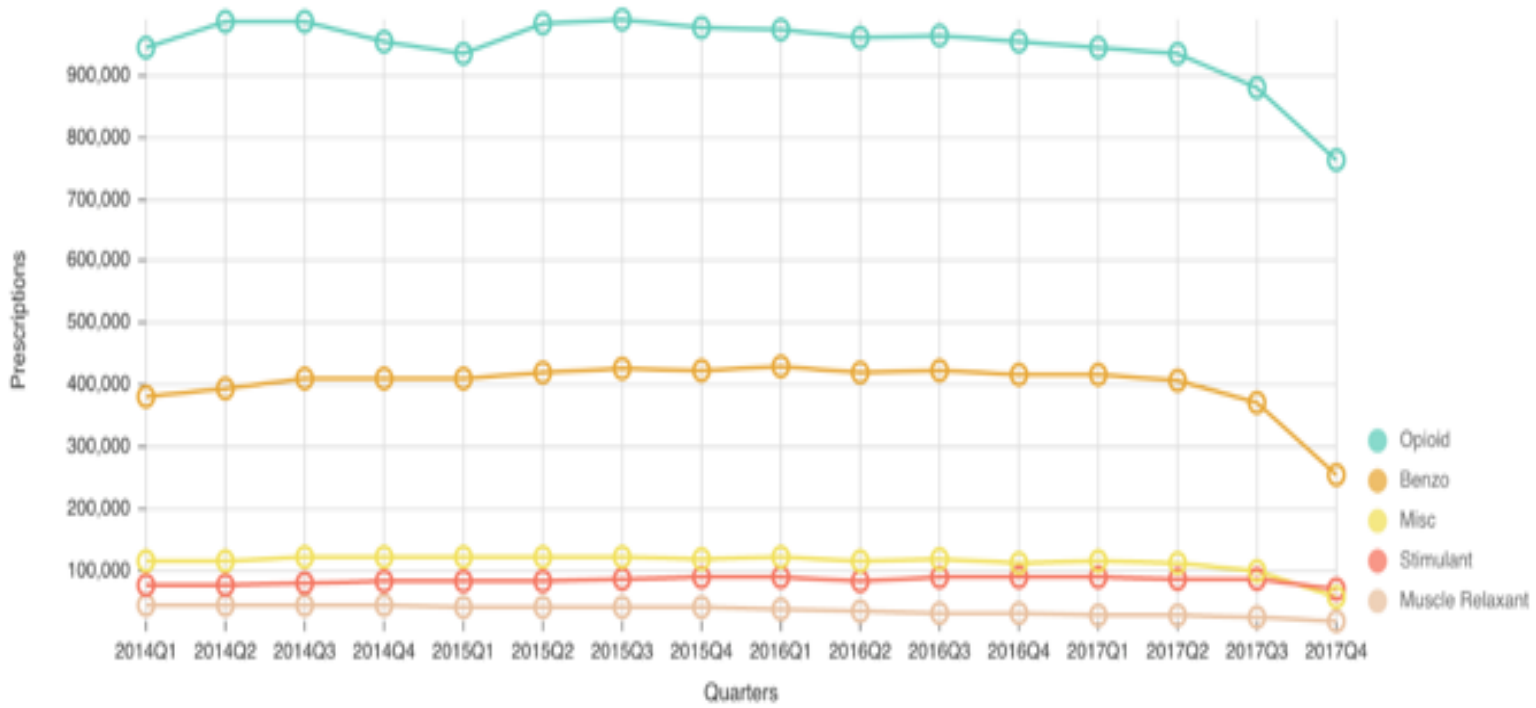
3. Create a graphical user interface for the linked databases and risk prediction tool

- Programming software used to create graphical display of the data
- Transfer the module from UAMS servers to ADH servers
- Data updated quarterly with each data deposit from Arkansas pharmacies
- Features:
    - Identify possible “hot spots” for overdose based on PDMP data
    - Drill down capabilities to see prescribing metrics by county
    - Able to track program interventions sent to targeted area(s)

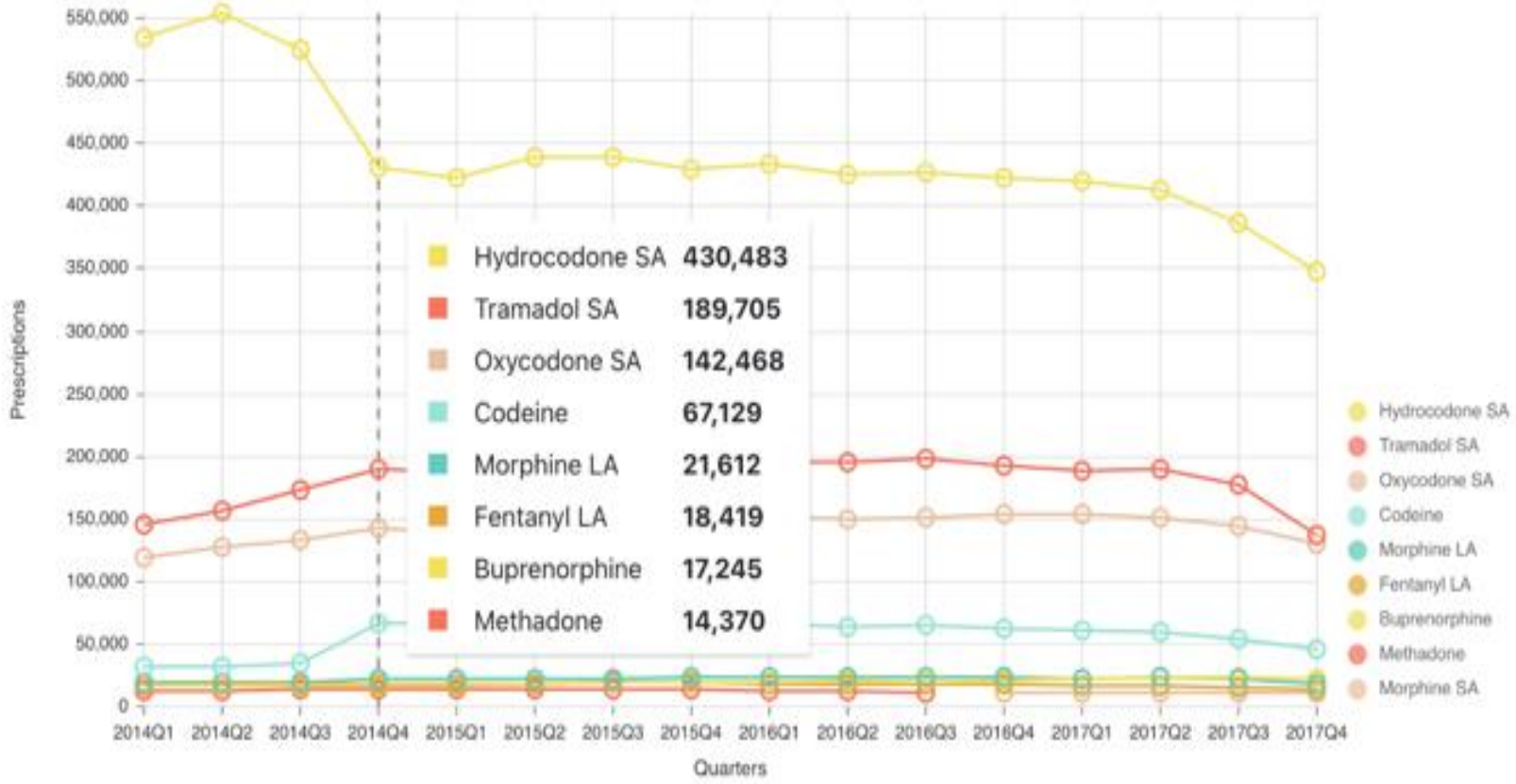
Opioid Overdose Prediction Dashboard

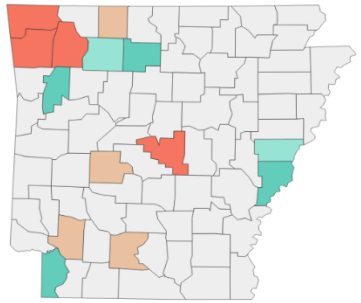
Home | Dashboard | Charts | Interventions | Upload

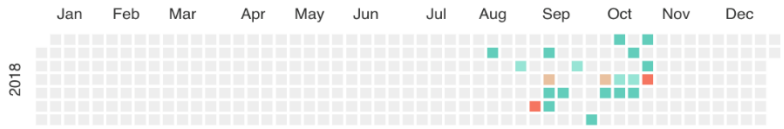
Drug Class over Time



Opioid Type over Time







Add Intervention

35 Interventions Logged

Search

Date	County	Program	Participants
2018-09-07	Benton	DOSE of Reality Event- Rogers	28
2018-09-07	Benton	DOSE of Reality Event: Rogers, AR	26
2018-09-07	Benton	DOSE of Reality Event: Rogers, AR	21
2018-09-07	Benton	DOSE of Reality Event: Rogers HS	21
2018-09-25	Pulaski	DOSE of Reality Event: JA Fair	11
2018-09-25	Pulaski	DOSE of Reality Event: JA Fair	17
2018-09-20	Pulaski	DOSE of Reality Event- ADH LR	8
2018-09-14	Phillips	DOSE of Reality Event: Great Rivers Ed	6
2018-09-13	Garland	DOSE of Reality Event: Levi Hospital	10
2018-09-12	Franklin	DOSE of Reality Event- GFESC	7
2018-09-12	Washington	DOSE of Reality Event: Madison Teen Summitt	57
2018-09-10	Pulaski	DOSE of Reality Event: West Central Community	10

Program Goals

4. Collaborate with PDMP Advisory Committee and other stakeholders to implement a statewide campaign using the new tools created by this application to increase awareness of opioid-overdose risk in Arkansas

- Mockup screen shots of the tool were presented to the Advisory Committee in the September 2021
- Once module is live and interventions dispersed to targeted area(s), PDMP Advisory Committee will be updated

Questions and Answers

Contact Information

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