Using Analytics to Advise Interstate Data Sharing
2022 Harold Rogers PDMP Meeting
Kentucky All Schedule Prescription Electronic Reporting System (KASPER) is an in-house developed and supported Prescription Drug Monitoring Program (PDMP).

- Began interstate data sharing in 2011
- Since 2015, Kentucky has shared data with six of our seven border states
- Since 2020, also share with the St. Louis County, MO Prescription Drug Monitoring Program (PDMP)
- Currently sharing with 18 other states
The Challenges of Interstate Data Sharing

• Patient Matching
  • High probability match
  • Difference in patient matching criteria
    • All states: first name, last name and date of birth
    • Some states: zip code or telephone number
    • Kentucky: first name, last name, SSN (instate only), date of birth, street, city and zip code
  • Impetus for request data from another state
Other State Residents with CS Dispenses

Unique Persons

- VA, 4222
- FL, 8239
- IL, 9265
- WV, 14744
- TN, 21261
- IN, 41431
- OH, 80330

Total number of unique persons from other states = 211,810
This represents 9% of the unique persons in our database for the same time frame (2,137,286)

2020 - 2021
CS Rx Dispensed to Other State Residents

Total number of Rx from other states = 736,803
This represents 3.4% of the Rx in our database for the same time frame (20,985,915)
Requests to Other States

2020-2021

- IL
- IN
- OH
- TN
- VA
- WV
- Other States
The Problem

• Querying other states
  • Requests in our portal are based on the individual user’s selection; 22% included a request to another state
  • Integrated requests are based on a corporate decision
• Composition of a patient request is based on what the originating state requires and not what the processing state utilizes
The Problem

- Large volumes of requests with low volume of matches
  - All states: 2.8%
  - Border states: 4.0%
- Regular reports of false positives and false negatives
Grant Project Goals

- Conduct an analysis of the cross border transactions between Kentucky and a couple of border states as well as a couple of non-border states to determine the nature and pattern of the transactions by:

  - Examining patients with other state addresses who are dispensed controlled substances in the home state;
  
  - Analyzing the prescriber location of these dispense transaction;
  
  - Developing metrics to identify risk behavior patterns for diversion and substance use disorder in these populations;
  
  - Mapping pharmacy, prescriber and patient zip codes considered to have risky behavior;
Grant Project Goals

• Utilizing systems data proactively, and

• Creating a process to use this data to inform interstate data sharing at the end user level through modifications to the KASPER system

• Future:
• Expanding to include data on KY residents receiving dispenses in other states
• Examine how to apply to interstate sharing
Logic for Suggesting Other States

• Algorithm Threshold Logic
  • Analyze all prescription records by KY zip code weekly for proportion of out of state patients receiving dispenses in KY
  • Create a reference table by zip codes

<table>
<thead>
<tr>
<th>PAT_ZIP</th>
<th>DR_ZIP</th>
<th>PAT_STATE</th>
<th>DR_STATE</th>
<th>RXs_PAT_OUT_OF_STATE</th>
<th>RXs_GROUP_DR_ZIP</th>
<th>PROPORTION_DR</th>
</tr>
</thead>
<tbody>
<tr>
<td>46368</td>
<td>41101</td>
<td>OH</td>
<td>KY</td>
<td>1257</td>
<td>83115</td>
<td>0.01512362389</td>
</tr>
<tr>
<td>25514</td>
<td>41230</td>
<td>WV</td>
<td>KY</td>
<td>1093</td>
<td>13062</td>
<td>0.08367784412</td>
</tr>
<tr>
<td>47130</td>
<td>40205</td>
<td>IN</td>
<td>KY</td>
<td>1007</td>
<td>30722</td>
<td>0.0327781394</td>
</tr>
<tr>
<td>37752</td>
<td>37752</td>
<td>TN</td>
<td>TN</td>
<td>973</td>
<td>5511</td>
<td>0.17855597885</td>
</tr>
<tr>
<td>45638</td>
<td>45638</td>
<td>OH</td>
<td>OH</td>
<td>970</td>
<td>8229</td>
<td>0.11787550507</td>
</tr>
<tr>
<td>29514</td>
<td>41222</td>
<td>WV</td>
<td>KY</td>
<td>923</td>
<td>4960</td>
<td>0.1860870967</td>
</tr>
<tr>
<td>25514</td>
<td>41230</td>
<td>WV</td>
<td>KY</td>
<td>899</td>
<td>18414</td>
<td>0.04882154882</td>
</tr>
</tbody>
</table>

• Proximity Table: Patient or Prescriber zip code is in a county bordering another state
Informing the Request for Other State Data

Looks at Patient Zip Code and Master Account Holder Zip Code
Informing the Request for Other State Data

*Analysis is based on the dispensed prescription records within the KASPER system. This analysis should not supersede other information you may have regarding the patient and interstate dispenses.
Implementation and Lessons Learned

- Offered webinars for end users
  - Lesson Learned: Many did not understand interstate data sharing
  - Webinars were well received
- Algorithm validated the need to request other state if in a bordering county
  - Lesson Learned: May not have needed the Proximity table
- Initial functionality to track and analyze was insufficient
  - Lesson Learned: Consider functionality to analyze use of new tools in the requirements building phase of every project.
Current State and Future Goals

• Conducting analysis of first year which is more complex than expected

• Initial analysis of requests with a patient match
  • All States – 6%
  • Border States – 4%

• Additional training offerings

• Solution is scalable to allow incorporation of aggregate data from others state on Kentucky residents
Jean Hall, KASPER Program Administrator

Jean.hall@ky.gov
502.871.1992