Maryland Perspective
PDMP Patient Matching (and Integration) Challenges & Opportunities
CRISP/PDMP Infrastructure

[Diagram showing the CRISP/PDMP Infrastructure with various components and connections.]
CRISP/PDMP Infrastructure

1. Master Patient Index (MPI)
2. CRISP Portal
3. Interstate Data Sharing
1. Patient Matching within MD PDMP

The CRISP Master Patient Index (MPI):

- Performs primary PDMP matching
- Designed to be “smarter” than PDMP vendor matching
- Benefits from other clinical data contributed to HIE
- Uses reference database to resolve “close matches”
- Leveraged to match PDMP data with other datasets

Sample Stats

2015 Dispenses
- Prior Vendor IDs: 3,304,446
- CRISP IDs: 1,859,445

All Dispenses (as of April 2019)
- Current Vendor IDs: 4,798,972
- CRISP IDs: 4,444,425
1. Patient Matching within MD PDMP

**Challenges**

- Clinical vs. Investigative users rely on different matching algorithms
- Ensuring PDMP requires full set of demographics used by MPI

**Opportunities**

- PDMP matching improved by:
  - Probabilistic algorithm
  - MPI leveraging non-PDMP data sources
  - Close match resolution with reference datasets
- PDMP data can be matched at patient-level with other datasets for analyses
2. Integration of PDMP into User Workflow

### Methods of Integration

<table>
<thead>
<tr>
<th>Approach</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMART on FHIR App</td>
<td>• Epic, Cerner</td>
</tr>
<tr>
<td></td>
<td>• No data ingested – real-time call</td>
</tr>
<tr>
<td>Data Delivery</td>
<td>• Epic</td>
</tr>
<tr>
<td></td>
<td>• Data ingested into patient’s chart</td>
</tr>
<tr>
<td>• 3rd party/custom integration</td>
<td>• Cerner, Meditech, Allscripts, Athena, etc.</td>
</tr>
<tr>
<td></td>
<td>• Some ingest data, some real-time calls</td>
</tr>
</tbody>
</table>

### Approaches to Patient Query

- MRN-based query (if sending ADTs)
- First name, last name, DOB for user to select from close-matches
- Full demographics for exact match
2. Integration of PDMP into User Workflow

Clinical decision support rule using PDMP data

![Image of medication dispensation information]

**Medication Dispense Information (as of 11/29/2017)**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dispensed</th>
<th>Written</th>
<th>Strength</th>
<th>Form</th>
<th>Quantity</th>
<th>Refills</th>
<th>Days Supply</th>
<th>Provider</th>
<th>Pharmacy</th>
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<td>06/27/2017</td>
<td>08:20</td>
<td>17</td>
<td>017</td>
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**Disclaimer**

Certain information may not be available in this report. Please access PDMP data within the CRISP portal for complete information.

**Source Information**

CRISP PDMP (Fill History, Acute Care) 11/29/2017 10:07 AM History Response Filed

**SMART on FHIR App embedded into EHR**
2. Integration of PDMP into User Workflow

Custom integration – real-time call to MD PDMP
2. Integration of PDMP into User Workflow

Challenges:
- Policy complexities for ingestion of MD PDMP data
- Variations in vendor capabilities for integration
- User experiences inconsistent based on query approach
- Workflows vary for organizations spanning multiple states

Opportunities:
- Adoption of evolving standards are making integrations easier
- API-based exchange can help resolve user experience issues across regions
- Explore options for “close matches” with integrations
3. Patient Matching/Integration of PDMP Interstate Sharing

Challenges:

• Risk of false positive patient matches scaling nationally
• Integration of interstate PDMP into workflow difficult
  • Variations in State laws
  • Interstate sharing MOU barriers
• As interoperability improves, performance may be a concern

Opportunities:

• Improved interstate sharing patient matching
  • Centrally via interstate sharing hub
  • Locally in federated model
  • Leverage MPI or national network
  • Incorporate reference databases
• SMART on FHIR apps
  • Real-time sharing without data persisting

• Exact match on name & date of birth