Enhancing Access to Prescription Drug Monitoring Programs

An Introduction to Using Health IT to Combat Prescription Drug Abuse
Today’s Agenda

- Project Overview
- Technical Framework
- Pilots & Implementations
- Compelling Vision
# The Team

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONC</td>
<td>Jennifer Frazier</td>
<td><a href="mailto:Jennifer.Frazier@hhs.gov">Jennifer.Frazier@hhs.gov</a></td>
</tr>
<tr>
<td>SAMHSA</td>
<td>Jinhee Lee</td>
<td><a href="mailto:Jinhee.Lee@samhsa.hhs.gov">Jinhee.Lee@samhsa.hhs.gov</a></td>
</tr>
<tr>
<td></td>
<td>Kate Tipping</td>
<td><a href="mailto:Kate.Tipping@samhsa.hhs.gov">Kate.Tipping@samhsa.hhs.gov</a></td>
</tr>
<tr>
<td>CDC</td>
<td>Chris Jones</td>
<td><a href="mailto:cjones@cdc.gov">cjones@cdc.gov</a></td>
</tr>
<tr>
<td>ONDCP</td>
<td>Cecelia Spitznas</td>
<td><a href="mailto:Cecelia_M_Spitznas@ondcp.eop.gov">Cecelia_M_Spitznas@ondcp.eop.gov</a></td>
</tr>
<tr>
<td>MITRE</td>
<td>Lisa Tutterow</td>
<td><a href="mailto:ltutterow@mitre.org">ltutterow@mitre.org</a></td>
</tr>
<tr>
<td></td>
<td>Jeffrey Hammer</td>
<td><a href="mailto:jmhammer@mitre.org">jmhammer@mitre.org</a></td>
</tr>
</tbody>
</table>
Overview
The Problem

- The Centers for Disease Control and Prevention (CDC) declared that deaths from prescription painkillers now outnumber deaths from heroin and cocaine combined.

- Prescription drug abuse death is one of the fastest growing public health epidemics, outpacing deaths from traffic fatalities.
Many states established PDMPs to address the prescription drug abuse problem

**Purpose:** To reduce prescription drug abuse and diversion

**What:** Statewide electronic databases
- Collect, monitor, and analyze electronically transmitted dispensing data on controlled substances

**Who:** Authorized healthcare professionals
- Physicians (known as prescribers)
- Pharmacists (known as dispensers)
- Other authorized healthcare professionals

© 2013 The MITRE Corporation. All rights reserved. Approved for Public Release: 13-1096. Distribution Unlimited.
PDMP Value

- PDMPs contain useful information
  - Identify patients who are potentially *abusing or diverting* prescription drugs
  - Inform **clinical decisions** regarding controlled substances

- The issue is how to make this information more available to three key groups of clinical decision-makers:
The Story So Far

Federal & State Partners
- SAMHSA
- CDC
- BJA

State Participants
- Action Plan

Stakeholders
- RelayHealth
- RITE AID
- Walmart
- surescripts
- Walgreens
- CVS/pharmacy

Organizations
- Alliance of States with Prescription Monitoring Programs
- NAMSDL
- IJIS Institute

White House Roundtable on Health IT & Prescription Drug Abuse: June 3, 2011

© 2013 The MITRE Corporation. All rights reserved. Approved for Public Release: 13-1096. Distribution Unlimited.
Situation Today

- Providers and dispensers need prescription drug history information to improve clinical decision-making
  - They don’t receive the controlled substance history needed from PDMPs

- Health IT is the link to connect prescribers and dispensers with the valuable data in PDMPs

- From the local to national level – never a greater time of action centered around PDMPs and their value

- Increasing number of projects centered on PDMPs and health IT connectivity

© 2013 The MITRE Corporation. All rights reserved. Approved for Public Release: 13-1096. Distribution Unlimited.
Project Goals

Work Groups

Provide recommendations and pilot input

Pilots

Test the feasibility of using health IT to enhance PDMP access

Connect PDMPs to health IT with existing technologies

Improve timely access to PDMP data

Establish standards for facilitating information exchange

Reduce prescription drug misuse and overdose in the United States
Work Groups
Work Group Engagement

Types
- Academic
- Data Provider
- Federal Partner
- Health Information Exchange
- Interest Group
- PDMP Software Vendor
- Pharmacy Benefits Manager
- Pharmacy Retailer
- Standards Organization
- State PDMP

People
94

Organizations
53

Meetings
42

Telephone and In-Person (in 2.5 months)

5 Work Groups
- Data Content and Vocabulary
- Data Transport
- User Interface
- Law and Policy
- Business Agreements

48 recommendations and 11 artifacts for use
PDMP Impediments

- Low Usage
- Limitations on Authorized Users
- Current Processes Do Not Support Clinical Workflows
- Low Technical Maturity to Support Interoperability
- Lack of Business Agreements

Emergency Department Prescriber

Ambulatory Prescriber

Dispenser
Work Group Recommendations Summary

48 Findings and 11 Products

PEOPLE
- Automate/streamline registration process
- Expand authorized user pool
- Appoint delegates
- Increase protection

DATA
- Standard set of data
- Adopt data exchange standard (NIEM-PMP)
- Real-time transmission

AGREEMENTS
- Business Agreements
- Business Associate Agreements

USEFULNESS
- Info for clinical decisions
- Workflow-based
- Improve unsolicited reporting

INTEGRATION
- Integrate access with EHR
- System-level access
- Standardize PDMP interfaces
Pilots
Why Pilots?

The pilot studies explored effectiveness in multiple areas:

- **At the point of decision-making**
  - (timely)

- **Integrated into existing clinical and health IT workflows**
  - (placement)

- **Real-time data, based on the most up-to-date data in the PDMP**
  - (currency)

- **Meaningful return of patients’ prescription drug information**
  - (essential, easily absorbed, and actionable)
## Pilot States and Summary

<table>
<thead>
<tr>
<th>State</th>
<th>Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indiana (IN₁)</td>
<td>Emergency Department</td>
<td>Automated query to PDMP upon patient admission to ED; PDMP data integrated into EHR</td>
</tr>
<tr>
<td>Indiana (IN₂)</td>
<td>Provider</td>
<td>Unsolicited PDMP reports sent via Direct</td>
</tr>
<tr>
<td>Michigan (MI)</td>
<td>Provider</td>
<td>Automated query to PDMP to create integrated prescription history and alerts</td>
</tr>
</tbody>
</table>
### Pilot States and Summary (Cont.)

<table>
<thead>
<tr>
<th>State</th>
<th>Initiative</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Dakota (ND)</td>
<td>Pharmacy</td>
<td>Automated query to PDMP using an existing benefits management switch and return results to Indian Health Service pharmacy</td>
</tr>
<tr>
<td>Ohio (OH)</td>
<td>Provider</td>
<td>Automated query to PDMP upon appointment scheduling and patient check-in; patient risk score displayed in EHR</td>
</tr>
<tr>
<td>Washington (WA)</td>
<td>Opioid Treatment Program</td>
<td>Hyperlink to PDMP within EHR</td>
</tr>
</tbody>
</table>
Pilot Results – Usability

98–100% when systems were mostly Automated

Ease of Use
Prescribers and Dispensers reported data was easier to access...

67–75% when some actions remained Manual

Prescribers and dispensers uniformly agreed that the position of the new tasks in the workflow was correct
Pilot Results – Impact

Less than 3 months

% of responses reporting a change in prescriptions written or number of pills dispensed

7%

Multiple types of pilot designs and technology were successful

58%
Pilot Results – Scalability

4 of 6 pilot locations are continuing to use the new connections to PDMP

Automation = Satisfaction

Triage helpful, but...
... full data access visibility and integration desired
Pilot Results

- **Immediate improvement** to the patient care process after connection
- **Streamlined the user workflows** by leveraging technology to enable PDMP query and processing tasks
- Prescribers and dispensers were the **most satisfied** with their new workflows when **technology automated** the majority of workflow tasks

**In their own words…**

- “I have to say that this is probably one of the more genius moves of the 21st century. . . having easy access to [the PDMP] without going to a totally different website and have it pop up instantly has taken a lot of time off of decision making for me.”
  – Emergency department physician

- “Yes, much easier. Especially like being able to click on the report and be taken directly to the patient’s report without having to enter the patient’s name, date of birth, and zip code (this was very time consuming and sometimes prevented me from looking up the information in the past).”
  – Ambulatory family physician
Pilots Expanded

Expand Existing Pilots:
Greater Impact

Expand Existing Pilots:
New Design

Do New Pilots:
Additional Proof of Concept

Stay tuned to find all pilot reports and findings at the new PDMP Resource Center (coming soon)
# Pilots Expanded in Phase 2

<table>
<thead>
<tr>
<th>State</th>
<th>End User</th>
<th>Pilot Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois (IL)</td>
<td>Emergency Department</td>
<td>Automated query via HIE to PDMP upon patient admission to ED PDMP data integrated into EHR via a Direct message</td>
</tr>
<tr>
<td>Indiana (IN₃)</td>
<td>Emergency Department</td>
<td>Automated query via HIE to multiple states’ PDMPs upon patient admission to ED Patient risk score and PDMP data integrated into EHR</td>
</tr>
<tr>
<td>Kansas (KS)</td>
<td>Providers</td>
<td>Unsolicited report of at-risk patients sent via Direct to EHR-integrated mailboxes</td>
</tr>
<tr>
<td>Michigan (MI)</td>
<td>Providers</td>
<td>Automated query via e-Prescribing software to multiple states’ PDMPs and result integrated in patient’s medication history</td>
</tr>
<tr>
<td>Nebraska (NE)</td>
<td>Emergency Department</td>
<td>Automated query via HIE to PDMP upon patient admission to ED PDMP data integrated into EHR</td>
</tr>
<tr>
<td>Oklahoma (OK)</td>
<td>Emergency Department</td>
<td>Automated query via HIE to PDMP upon patient admission to ED PDMP data integrated into EHR</td>
</tr>
<tr>
<td>Tennessee (TN)</td>
<td>Pharmacy</td>
<td>Reporting data in real-time to the PDMP from pharmacies</td>
</tr>
</tbody>
</table>
Technical Framework
Technical Framework – Challenges

What’s the problem?

- Ease of use – PDMPs are not integrated in provider workflows
- Interoperability – PDMPs don’t talk to other health IT
- Cost of operations – PDMPs cost too much to run
PDMP S&I Community Focus/Scope

- **Need for standards:**
  - Data format and content, transport and security protocols
PDMP S&I Initiative

Method
Healthcare systems automatically query PDMP services to locate patient prescription information

Goal
Establish standards to facilitate information exchange

Community Engagement
Continue to engage healthcare, health IT, and PDMP community in standards discussions

© 2013 The MITRE Corporation. All rights reserved. Approved for Public Release: 13-1096. Distribution Unlimited.
PDMP/EHR Exchange Reference Implementation

- Demonstration of EHR querying PDMP using Internet / healthcare standards and protocols

- **Next Steps**
  - Replace one or both ends with EHR and/or PDMP vendors
  - Demonstrate a reference implementation in live setting

---

**PDMP Lite Architecture**
- Receive RESTful queries
- Generate standardized healthcare documents

**Customized Open Source EHR Client**
- Submit RESTful queries
- Ingest standardized healthcare documents

**OpenMRS Module**
- Open Search formatted patient-query
- Java/Maven/Hibernate (github)
- Consume/display in custom tab on patient dashboard (in-workflow)

**OpenMRS**

**PDMP Lite**

**PDMP Lite Reference Implementation**
- Open Search (for patient-query)
- Ruby source available on github
- Profile for green CDA responses

---

Enable interoperability between HIE/EHR vendors and PDMP vendors
Compelling Vision
Articulating a Compelling Vision

Evidence and Analytics

Roadmaps Workflows

Building a community through development of a resource center that includes:

User Stories Education

Pilot Progress Tech Development
Roadmap Workflows

- **Goals**
  - To connect and engage stakeholders
  - Accelerate adoption and use of PDMPs

- **Key features**
  - Models the connection
  - Technology workflows
  - Project plan
  - Implementation
  - Evaluation and optimization
In Summary…

Questions or Comments?
Email pdmphit@mitre.org