S&I Framework Integration
Project and Pilots

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Substance Abuse and Mental Health Services Administration

PMIX Architecture National Meeting
Washington, DC
November 13, 2014
The Story So Far

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

Federal & State Partners
- SAMHSA
- CDC
- BJA

State Participants
- White House

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

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

Action Plan

ACTION PLAN FOR IMPROVING ACCESS TO PRESCRIPTION DRUG MONITORING PROGRAMS THROUGH HEALTH INFORMATION TECHNOLOGY

Presented to The Behavioral Health Coordinating Committee, Department of Health and Human Services through The Pharmaceutical Abuse Subcommittee by the Prescription Drug Abuse and Health Information Technology Work Group
JUNE 30, 2011

www.samhsa.gov - 1-877-SAMHSA-7 (1-877-726-4727)
• **Goal:** Increase timely access to PDMP data in an effort to reduce prescription drug misuse and overdoses.
  
  • *Explore ways to use HIT to link prescribers and dispensers with the valuable data in PDMPs.*
  
  • **Main issue:** How to make this information more available to three key groups of clinical decision makers:
    
    - Provider Practices
    - Emergency Departments
    - Pharmacies
Enhancing Access to PDMPs through Health IT Project

Work Groups

Provide recommendations and pilot input

Pilots

Test the feasibility of using health IT to enhance PDMP access

- Improve clinician workflow by connecting PDMPs to health IT
- Support timely decision-making at the point of care
- Establish standards for facilitating information exchange

Reduce prescription drug misuse and overdose in the United States
# Phase 1 Pilots: Overview

<table>
<thead>
<tr>
<th>State</th>
<th>End User</th>
<th>Pilot Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indiana (IN₁)</td>
<td>Emergency Department</td>
<td>Automated query to PDMP upon patient admission to ED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>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>
<tr>
<td>North Dakota (ND)</td>
<td>Pharmacy</td>
<td>Automated query to PDMP using an existing benefits management switch</td>
</tr>
<tr>
<td>Ohio (OH)</td>
<td>Provider</td>
<td>Automated query to PDMP upon appointment scheduling and patient check-in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Patient risk score and a link to PDMP details 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>
## Phase 2 Pilots - Overview

<table>
<thead>
<tr>
<th>State</th>
<th>End User</th>
<th>Pilot Summary</th>
</tr>
</thead>
</table>
| Illinois     | Emergency       | • Automated query via intermediary and interstate hub to PDMP upon patient admission to ED  
                 Department                                  • PDMP data integrated into EHR as a PDF via a Direct message                                                                                      |
| Indiana      | Emergency       | • Automated query via HIE to multiple states’ PDMPs upon patient admission to ED  
                 Department                                  • Patient risk score and PDMP data integrated into EHR                                                                                           |
| Kansas       | Providers       | • Unsolicited report of at-risk patients sent via Direct to EHR-integrated mailboxes                                                                                                                  |
| Michigan     | Providers       | • Automated query via e-Prescribing software to multiple states’ PDMPs and result integrated in patient’s medication history                                                                                  |
| Nebraska     | Emergency       | • Automated query via HIE to PDMP upon patient admission to ED  
                 Department                                  • Easy access to PDMP with SSO  
                 • PDMP data integrated into EHR                                                                                                                   |
| Oklahoma     | Emergency       | • Established PDMP access directly through an HIE  
                 Department                                  • Developed a SSO from the EHR through the HIE to the PDMP  
                 • Alert flag representing the PDMP data                                                                                                           |
| Tennessee    | Pharmacy        | • Real-time reporting of dispensing controlled substance data to the PDMP using an existing network                                                                                                   |
Enhancing Access to PDMP using Health IT Phases 1&2: Resources

- **Enhancing Access” Pilot White Papers**: Eight papers detailing each pilot’s design, technical configuration, outcomes, and plans for expansion. The white papers also highlight various personal anecdotes from the participants who wrote about how they integrated PDMP data into their clinical workflow and the success it had on their practice.

- **The Road to Connectivity**: A roadmap for connecting to PDMPs through health IT.

- **Work Group Recommendations–Final Report**: Stakeholders identified challenges and recommended solutions to increase timely use of PDMP data by clinicians. More than 94 people across 53 organizations formed work groups to define barriers and rapidly finalize recommendations to address the problem.

- **Videos**: Pilot participants detail their individual battles against prescription drug abuse, recalling the advantages of their state’s PDMP including real-time reporting and how they used health IT to connect clinicians to this important database.

- **PDMPConnect**: A website providing a forum for connecting members of the PDMP community to share valuable experience, information, and resources wherever they are.

**All resources available at: www.healthit.gov/pdmp**
• **FY 12** – Provided 2 year funding for 9 states: FL, IN, IL, KS, ME, OH, TX, WA, WV

• **FY 13** – Provides 2 year funding for 7 states: KY, MA, ND, NY, RI, SC, WI

• **Purpose:**
  1) Improve real-time access to PDMP data by integrating PDMPs into existing technologies like EHRs (FY12,13)
  2) Strengthen currently operational state PDMPs by increasing interoperability between states (FY12)
  3) Evaluate whether these enhancements have an impact on prescription drug abuse (FY12)
Enhancing Access to PDMPs using Health IT project – Phases 1 & 2

- September 2011 - March 2013
- Pilots demonstrated proof of concept.
- Various non-standard approaches were also used that need to be refined or harmonized with the existing portfolio of standards and implementation specifications.
- Abbreviated S&I Initiative (Jan – March 2013)
  - Did not identify, evaluate and harmonize standards for the exchange of information from PDMP to EHRs or HIEs.
  - Valuable feedback from stakeholders but only identified where standards were needed and the potential standards that could be used.

PDMP & Health IT Integration Initiative – Phase 3

- November 2013 – TBD
- Full S&I Framework Initiative
- Assess the current PDMP infrastructure and available standards that could be harmonized to allow interoperable communications between PDMPs and health IT systems.
One of the current technical barriers to interoperability is the lack of standard methods to exchange and integrate the prescription drug data available in PDMPs into health IT systems.

- Lack of common technical standards and vocabularies to enable PDMPs to share computable information with the EHR that providers can use to support clinical decision-making.

To achieve interoperability, consistent and standardized electronic methods need to be established to enable seamless data transmission between PDMPs and health IT systems.
The Standards & Interoperability (S&I) Framework:

- A collaborative community of participants from the public and private sectors who are focused on providing the tools, services and guidance to facilitate the functional exchange of health information.

- Creates a open and transparent process where healthcare stakeholders can focus on solving real-world interoperability challenges.

- Is a consensus-driven, coordinated, incremental standards process.

Each S&I Initiative focuses on narrowly-defined, broadly applicable challenge, tackled through a rigorous development cycle, and provides input to Federal Advisory Committees for consideration.
ONC Standards and Interoperability (S&I) Framework Lifecycle

Our Missions

» Promote a sustainable ecosystem that drives increasing interoperability and standards adoption.
» Create a collaborative, coordinated, incremental standards process that is led by the industry in solving real world problems.
» Leverage “government as a platform” – provide tools, coordination, and harmonization that will support interested parties as they develop solutions to interoperability and standards adoption.
### PMP/HITI User Stories with Alternate Workflows

#### EHR or Ph. to In-State PMP:
1a: EHR to In-state PMP  
1b: Ph. to In-state PMP  
2a: EHR to In-state PMP via HIE  
2b: Ph. to In-state PMP via HIE  
3a: EHR to In-state PMP via Hub  
3b: Ph. Intermediary to In-State PMP via Hub

#### EHR or Ph. to Out-of-State PMP:
1a+4: EHR to out-of-state PMP via In-state PMP  
1b+4: Ph.to out-of-state PMP via In-state PMP  
2a+4: EHR to out-of-state PMP via HIE & In-state PMP  
2b+4: Ph. to out-of-state PMP via Ph. Int & In-state PMP  
2a+5: EHR to out-of-state PMP via HIE  
2b+5: Ph. to out-of-state PMP via HIE  
2a+7a+6: EHR to out-of-state PMP via HIE + Hub  
2b+7a/7b+6: Ph to out-of-state PMP via HIE/Ph. Int + Hub  
3a+4: EHR to out-of-state PMP via Hub & In-State PMP  
3b+4: Ph. to out-of-state PMP via Hub & In-State PMP  
1a+8: EHR to out-of-state PMP via In-State PMP & Hub  
1b+8: Ph. to out-of-state PMP via In-State PMP & Hub  
3a+6: EHR to out-of-state PMP via Hub  
3b+6: Ph. To out-of-state PMP via Hub

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<table>
<thead>
<tr>
<th>Transactions</th>
<th>Scope</th>
<th>From</th>
<th>Via</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>✔</td>
<td>EHR</td>
<td>-</td>
<td>In-State PDMP</td>
</tr>
<tr>
<td>1b</td>
<td>✔</td>
<td>Pharmacy</td>
<td>-</td>
<td>In-State PDMP</td>
</tr>
<tr>
<td>2a</td>
<td>✔</td>
<td>EHR</td>
<td>HIE</td>
<td>In-State PDMP</td>
</tr>
<tr>
<td>2b</td>
<td>✔</td>
<td>Pharmacy</td>
<td>HIE</td>
<td>In-State PDMP</td>
</tr>
<tr>
<td>3a</td>
<td>✔</td>
<td>EHR</td>
<td>Hub</td>
<td>In-State PDMP</td>
</tr>
<tr>
<td>3b</td>
<td>✔</td>
<td>Pharmacy</td>
<td>Hub</td>
<td>In-State PDMP</td>
</tr>
<tr>
<td>4</td>
<td>✗</td>
<td>In-State PDMP</td>
<td>-</td>
<td>Out of State PDMP</td>
</tr>
<tr>
<td>5a</td>
<td>✗</td>
<td>HIE</td>
<td>-</td>
<td>Out-of-State PDMP</td>
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<td>5b</td>
<td>✗</td>
<td>Ph. Intermediary</td>
<td>-</td>
<td>Out-of-State PDMP</td>
</tr>
<tr>
<td>6</td>
<td>✗</td>
<td>Hub</td>
<td>-</td>
<td>Out-of-State PDMP</td>
</tr>
<tr>
<td>7a</td>
<td>✗</td>
<td>HIE</td>
<td>Hub</td>
<td>In-State PDMP</td>
</tr>
<tr>
<td>7b</td>
<td>✗</td>
<td>Ph. Intermediary</td>
<td>Hub</td>
<td>In-State PDMP</td>
</tr>
</tbody>
</table>
# Recap of Harmonization Progress & Status

## PDMP & HITI Initiative Current Status

<table>
<thead>
<tr>
<th>S&amp;I Harmonization Activity</th>
<th>Purpose</th>
<th>Date Completed</th>
<th>Outcome</th>
<th># of Standards</th>
<th>Participating Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Candidate Standards Analysis</strong></td>
<td>Identify, describe, and categorize all possible standards relevant to PDMP data exchange.</td>
<td>4/8/2014</td>
<td>Full set of seemingly relevant standards, descriptions, and resources for further information. Sets framework for standards evaluation.</td>
<td>15 (C&amp;S, Vocab)</td>
<td>PDMP, Pharmacy, HIE, Data Exchange Networks</td>
</tr>
<tr>
<td><strong>UCR Standards Crosswalk</strong></td>
<td>Map technically feasible use case requirements to candidate standards, identifying high-level gaps.</td>
<td>4/29/2014</td>
<td>Identify standards that fit the needs of the PDMP&amp;HITI Use Case requirements, eliminating less suitable standards from further analysis.</td>
<td>15 (C&amp;S, Vocab)</td>
<td></td>
</tr>
</tbody>
</table>
Strategy Details

- Implementation Guide focus will shift to those organizations providing transformations/translation/ETL services.

- Data elements will need to be modified or added, specified within the PDMP & HITI Implementation Guide.
Pilot Workflow #1: EHR/ HealthIT System to PDMP via PDMP Hub

EHR $\rightarrow$ PDMP Hub $\rightarrow$ PDMP

EHR Origin Standard:
- HL7 V2
- NCPDP SCRIPT
- ASAP Web Services

PDMP Standard
- PMIX
Pilot Workflow #2:
Pharmacy to PDMP via PDMP Hub

Pharmacy IT System ➔ PDMP Hub ➔ PDMP

Pharmacy Origin Standard:
HL7 V2 (in hospital)
NCPDP SCRIPT (large retail pharmacies)
ASAP Web Services

PDMP Standard
PMIX
PDMP Pilot Timeline

(Today)

- **Sept:** 9/9 IG Consented
- **Oct:** IG Development
  - IG Finalized and Posted For Pilot Use
- **Nov:**
- **Dec:**
- **Jan:**
- **Feb:**

**Pilots**
- **Kick Off Pilot Activities**
- **Conduct Pilots Needs Assessment**
- **Begin Pilot Work**
- **Pilot Progress Assessment**
<table>
<thead>
<tr>
<th>EHR/PHARMACIES/OTHER VENDORS</th>
<th>PRIMARY STANDARD BEING TESTED (HIT System to Hub)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epic</td>
<td>NCPDP SCRIPT 10.6</td>
</tr>
<tr>
<td>NextGen</td>
<td>NCPDP SCRIPT 10.6</td>
</tr>
<tr>
<td>Dr. First</td>
<td>NCPDP SCRIPT 10.6</td>
</tr>
<tr>
<td>Cognosante</td>
<td>HL7 V2.7</td>
</tr>
<tr>
<td>QS/1</td>
<td>ASAP Web Services v1.1</td>
</tr>
<tr>
<td>Digital Simplistics, Inc.</td>
<td>ASAP Web Services v1.1</td>
</tr>
<tr>
<td>PDX, Inc.</td>
<td>ASAP Web Services v1.1</td>
</tr>
<tr>
<td>Prescription Advisory Systems &amp; Technology (PAST, Inc.)</td>
<td>ASAP Web Services v1.1</td>
</tr>
<tr>
<td>Transaction Data Systems, Inc.</td>
<td>ASAP Web Services v1.1</td>
</tr>
<tr>
<td>SoftWriters, Inc.</td>
<td>ASAP Web Services v1.1</td>
</tr>
</tbody>
</table>
## PDMP Pilot Participants (cont)

<table>
<thead>
<tr>
<th>INTERMEDIARY/HUB</th>
<th>PRIMARY STANDARD BEING TESTED (Hub to PDMP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appriss</td>
<td>NCPDP SCRIPT 10.6, ASAP Web Services v1.1, HL7 v2.7</td>
</tr>
<tr>
<td>OneHealthPort HIE</td>
<td>NCPDP SCRIPT 10.6</td>
</tr>
</tbody>
</table>

### PDMP PILOT PARTICIPANTS

- Kentucky Cabinet for Health and Family Services (KASPER)
- Washington State Department of Health
- New Mexico PMP
- Virginia Prescription Monitoring Program
- Arizona Board of Pharmacy
## Current Pilot Teams

<table>
<thead>
<tr>
<th>EHR/Pharmacy IT</th>
<th>Hub</th>
<th>PDMP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NCPDP 10.6</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epic</td>
<td>OneHealthPort</td>
<td>WA State</td>
</tr>
<tr>
<td>Epic</td>
<td>Appriss</td>
<td>New Mexico</td>
</tr>
<tr>
<td>Epic</td>
<td>Appriss</td>
<td>Virginia</td>
</tr>
<tr>
<td>Dr. First</td>
<td>Appriss</td>
<td>Arizona</td>
</tr>
<tr>
<td>Dr. First</td>
<td>Appriss</td>
<td>KY (?)</td>
</tr>
<tr>
<td>NextGen</td>
<td>Appriss</td>
<td>KY (?)</td>
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<tr>
<td><strong>ASAP Web Services</strong></td>
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<tr>
<td>QS1</td>
<td>Appriss</td>
<td>Virginia</td>
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<tr>
<td>PAST</td>
<td>Appriss</td>
<td>Arizona</td>
</tr>
<tr>
<td>PDX</td>
<td>Appriss</td>
<td>TBD</td>
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<tr>
<td>Transaction Data Systems</td>
<td>Appriss</td>
<td>TBD</td>
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<tr>
<td><strong>HL7 Standards</strong></td>
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<td></td>
</tr>
<tr>
<td>Cognosante</td>
<td>Appriss</td>
<td>TBD</td>
</tr>
</tbody>
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PDMP & HIT Integration

Charter/Scope Summary
Enable integration of PDMP data into the normal clinical workflow by:
• Connecting PDMPs to health IT systems (e.g. EHRs and HIEs) using existing standards;
• If standards do not exist, establishing standards for facilitating information exchange between PDMPs and health care providers; and
• Improving timely and convenient access to PDMP data by health care providers.

Dependencies/Challenges
• PDMP data structures based on NIEM; PDMP administrators are highly unmotivated to adopt native EHR or Pharmacy IT system standards due to cost implications
• Some states use proprietary products to access PDMP data - no widely adopted standards
• Fragmented stakeholders across the community require implementation guidance to accommodate multiple policies and scenarios
• State PDMPs are stand-alone and don’t readily share/may be prohibited from sharing with other states (unless agreements are in place).

Outputs
• Charter 01/07/2014
• Use Case 03/25/2014
• Implementation Guide 9/9/2014
• Pilots Fall 2014 – 16 pilot participants
Contact Information

• For questions, please feel free to contact your support leads:
  
  • Initiative Coordinators:
    – Johnathan Coleman jc@securityrs.com
    – Sherry Green sgreen@namsdl.org
  
  • ONC Leads:
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    – Jennifer Frazier Jennifer.Frazier@hhs.gov
    – Helen Caton-Peters Helen.Caton-Peters@hhs.gov
  
  • SAMHSA Leads
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        (Support)
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  • Pilots Support:
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    • Nadia Ramey nadia.ramey@esacinc.com
    • Ali Khan ali.khan@esacinc.com
    • Saurav Chowdhury saurav.chowdhury@esacinc.com

For questions, please feel free to contact your support leads:
Thank you!

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jinhee.lee@samhsa.hhs.gov

The findings and conclusions in this report are those of the author and do not necessarily represent the views of the Substance Abuse and Mental Health Services Administration.