CONNECTING FOR IMPACT: Federal Efforts to Integrate Health IT and PDMPs to Improve Patient Care

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Office of the National Coordinator for Health IT
Presentation Overview

- Prescription drug overdose epidemic
- Federal efforts:
  - Strategic Initiatives
  - SAMHSA’s PDMP Grant Program
  - ONC’s “Enhancing Access to PDMPs using Health IT” Project
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 deaths is one of the fastest growing public health epidemics, outpacing deaths from traffic fatalities.
Past Month Illicit Drug Use among Persons Aged 12 or Older: 2012

- **Illicit Drugs**: 23.9 million (9.2%)
  - **Marijuana**: 18.9 million (7.3%)
  - **Psychotherapeutics**: 6.8 million (2.6%)
  - **Cocaine**: 1.6 million (0.6%)
  - **Hallucinogens**: 1.1 million (0.4%)
  - **Inhalants**: 0.5 million (0.2%)
  - **Heroin**: 0.3 million (0.1%)

1 Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically (pain relievers, stimulants, tranquilizers, sedatives).

Source: 2012 NSDUH
Received Most Recent Treatment in the Past Year for the Use of Pain Relievers among Persons Aged 12 or Older: 2002-2012

Numbers in Thousands

<table>
<thead>
<tr>
<th>Year</th>
<th>Numbers in Thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>360+</td>
</tr>
<tr>
<td>2003</td>
<td>415+</td>
</tr>
<tr>
<td>2004</td>
<td>424+</td>
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<tr>
<td>2005</td>
<td>466+</td>
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<td>2007</td>
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<td>2008</td>
<td>604</td>
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<tr>
<td>2009</td>
<td>736</td>
</tr>
<tr>
<td>2010</td>
<td>761</td>
</tr>
<tr>
<td>2011</td>
<td>726</td>
</tr>
<tr>
<td>2012</td>
<td>973+</td>
</tr>
</tbody>
</table>

* Difference between this estimate and the 2012 estimate is statistically significant at the .05 level.
Source: 2012 NSDUH
Current Status of PDMPs

- 49 States have legislation authorizing PDMPs
- Operational in 47
• Prescription drug overdose epidemic

• **Federal efforts:**
  – Strategic Initiatives
  – SAMHSA’s PDMP Grant Program
  – ONC’s “Enhancing Access to PDMPs using Health IT” Project
• In 2011, ONDCP released the Prescription Drug Abuse Prevention Plan, which includes 4 major areas of action to reduce prescription drug abuse:
  – Education,
  – **Monitoring,**
  – Proper Disposal, and
  – Enforcement
• PDMPs are at the core of the Monitoring activities.

SAMHSA’s Strategic Initiatives

- Prevention of Substance Abuse & Mental Illness
- Trauma and Justice
- Military Families
- Recovery Support
- Health Reform
- Health Information Technology
- Data, Outcomes, and Quality
- Public Awareness and Support
ONC’s Strategic Plan

Goals:
• Achieve adoption and information exchange through meaningful use of health IT
  • Support health IT adoption and information exchange in all healthcare settings including LTPAC, behavioral health and emergency settings.
  • Improve care, improve population health, and reduce health care costs through the use of health IT
• Inspire confidence and trust in health IT
• Empower individuals with health IT to improve their health and health care system
• Achieve rapid learning and technological advancement
• FY 12 – Provided 2 year funding for 9 states: FL, IN, IL, KS, ME, OH, TX, WA, WV

• FY 13 – Provided 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 Prescription Drug Monitoring Programs

ONC/SAMHSA PROJECT: PHASE 1
<table>
<thead>
<tr>
<th>The Office of the National Coordinator for Health Information Technology</th>
<th>Jennifer Frazier, ONC, <a href="mailto:Jennifer.Frazier@hhs.gov">Jennifer.Frazier@hhs.gov</a></th>
</tr>
</thead>
</table>
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| CDC | Chris Jones, CDC, [cjones@cdc.gov](mailto: cjones@cdc.gov) |
| Office of National Drug Control Policy | Cecelia Spitznas, ONDCP, [Cecelia_M_Spitznas@ondcp.eop.gov](mailto:Cecelia_M_Spitznas@ondcp.eop.gov) |
The Story So Far

Stakeholders

Federal & State Partners
- SAMHSA
- CDC
- BJA

State Participants
- RelayHealth
- RITE Aid
- Walmart
- surescripts
- CVS/pharmacy
- Walgreens

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

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

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
Project Structure and Objectives

Work Groups
Provide recommendations and pilot input

Improve clinician workflow by connecting PDMPs to health IT

Support timely decision-making at the point of care

Establish standards for facilitating information exchange

Pilots
Test the feasibility of using health IT to enhance PDMP access

Reduce prescription drug misuse and overdose in the United States
PDMP Barriers

- Emergency Department Prescriber
- Ambulatory Prescriber
- Dispenser

- Low Usage
- Limitations on Authorized Users
- Current Processes Do Not Support Clinical Workflows
- Low Technical Maturity to Support Interoperability
- Lack of Business Agreements
<table>
<thead>
<tr>
<th>Number/Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Data Content and Vocabulary</td>
<td>To determine the data content and vocabulary necessary to support data exchange between Prescription Drug Monitoring Programs (PDMP) and recipients.</td>
</tr>
<tr>
<td>2: Information Usability and Presentation</td>
<td>To determine how PDMP information will be presented in the user interfaces for pharmacy systems and provider and ED Electronic Health Records (EHR) to maximize the value of this data for the treatment and dispensing decision-making processes.</td>
</tr>
<tr>
<td>3: Transport and Architecture</td>
<td>To explore and develop the technical specifications for data transmission (e.g., REST, SOAP, Direct) between PDMPs and a variety of recipient systems and intermediaries.</td>
</tr>
<tr>
<td>4: Law and Policy</td>
<td>To explore legal and policy issues in support of program objectives, including PDMP data access within various recipient settings, use of intermediaries to enable PDMP data exchange and specific Pilot Program scenarios in the context of specific state(s).</td>
</tr>
<tr>
<td>5: Business Agreements for Intermediaries</td>
<td>To analyze the current business environment relevant to the use of intermediaries (e.g., Switches, HIEs) to route transmissions between PDMPs and data recipients.</td>
</tr>
</tbody>
</table>
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

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

94 People
53 Organizations
42 Telephone and In-Person Meetings
(in 2.5 months)
The “Enhancing Access” Pilots

- Goal: Increase timely access to PDMP data in an effort to reduce prescription drug misuses and overdoses.

- Explored ways to use health IT to link prescribers and dispensers with the valuable data in PDMPs.

- The issue is how to make this information more available to three key groups of clinical decision makers:
## 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 displayed in EHR</td>
</tr>
<tr>
<td>Washington (WA)</td>
<td>Opioid Treatment Program</td>
<td>Hyperlink to PDMP within EHR</td>
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**Pilot States and Summary**

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<tr>
<th>Indiana (IN₁)</th>
<th>Emergency Department</th>
<th>Automated query to PDMP upon patient admission to ED</th>
<th>PDMP data integrated into EHR</th>
<th>Automated query and response, streamlined workflow for physicians</th>
</tr>
</thead>
</table>

**Indiana (IN₂)**

| Provider | Unsolicited PDMP reports sent via Direct | Safer, more secure transmission of unsolicited reports |

**Diagrams:**
- **Hospital EMR**
- **Interstate Hub**
- **PDMP**
- **INSPECT**
- **Indiana Prescription Drug Monitoring Program**
- **Cerner HISP and Direct mailbox**
- **Prescriber who has treated a given patient**
**Pilot States and Summary (cont.)**

<table>
<thead>
<tr>
<th>State</th>
<th>Role</th>
<th>Action</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michigan (MI)</td>
<td>Provider</td>
<td>Automated query to PDMP to create integrated prescription history and alerts</td>
<td>Leveraged existing benefits transmission technology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Partnered with e-prescribing</td>
<td></td>
</tr>
<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>
<td></td>
</tr>
</tbody>
</table>

**Diagram:**
- Michigan (MI):
  - Ropecia Terminal
  - DrFirst Payor Engine
  - PMPi
  - MAPS (PDMP)

- North Dakota (ND):
  - Pharmacy System
  - Switch
  - Interstate Hub
  - PDMP
### Pilot States and Summary (cont.)

<table>
<thead>
<tr>
<th>State (Abbreviation)</th>
<th>Program Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<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>
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<tr>
<td></td>
<td></td>
<td>Streamlined access to PDMP</td>
</tr>
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</table>

**Diagram:**
- **Ambulatory EHR**
- **HIE**
- **Intermediary**
- **PDMP**

1. Evergreen Prescriber
2. Washington State Prescription Drug Monitoring Program
3. Intermediary
4. PDMP
5. HIE
6. Ambulatory EHR
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
Phase 1: Products

- Work Group Final Report
- 7 Pilot White Papers

Available at [www.healthit.gov/pdmp](http://www.healthit.gov/pdmp) & “PDMPConnect” at [www.healthit.gov/pdmp/pdmpconnect](http://www.healthit.gov/pdmp/pdmpconnect)
Enhancing Access to Prescription Drug Monitoring Programs

ONC/SAMHSA PROJECT: PHASE 2
Standards:
Examine standards PDMP/EHR data exchange

New Pilots:
Create connections between PDMPs and end users to show connectivity

Outreach:
Create compelling stories and resources to drive demand for PDMP data

Underutilized by clinical decision makers

Lack of connections to health IT

Phase 2: Structure and objectives
Phase 2 Pilots
<table>
<thead>
<tr>
<th>State</th>
<th>End User</th>
<th>Pilot Summary</th>
</tr>
</thead>
</table>
| Illinois  | Emergency Department | • Automated query via intermediary and interstate hub to PDMP upon patient admission to ED  
• PDMP data integrated into EHR as a PDF via a Direct message |
| Indiana   | Emergency Department | • Automated query via HIE to multiple states’ PDMPs upon patient admission to ED  
• 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 Department | • Automated query via HIE to PDMP upon patient admission to ED  
• Easy access to PDMP with SSO  
• PDMP data integrated into EHR |
| Oklahoma  | Emergency Department | • Established PDMP access directly though an HIE  
• 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                                      |
Illinois “ED” Pilot

• Pre-Pilot State:
  – Log-on via PDMP portal
  – Manually enter information

• Pilot:
  – ED leveraged ADT feed to trigger query PDMP
  – Intermediaries: PMPi served as interface to the PDMP; C4UH converted data to PDFs
  – Used Direct messaging to deliver PDMP report to the ED physicians

• Results:
  – Automating the query from within the EHR was easier and faster, resulting in increased usage and satisfaction by providers
Indiana “Phase 1 Expanded” Pilot

- **Pre-Pilot State:**
  - Phase 1 design (ED leveraged ADT feed to query PDMP)

- **Pilot:**
  - Scaled Phase 1 pilot design to additional hospitals using HIE
  - Used NarxCheck - patient “at-risk” score
  - Expanded to included PDMP data from OH and MI

- **Results:**
  - Busy ED physicians have access to a complete picture of the patient before beginning the encounter.
  - Connecting the PDMP to the HIE provided immediate access to more than 25,000 physicians and over 90 hospitals.
  - Providers supported NarxCheck as a CDS tool
 Kansas “Unsolicited Reporting” Pilot

• Pre-Pilot State: Manual process (print/mail hard copy)
• Pilot: Electronic process
  – Technology converted document into individual electronic files with associated email addresses
  – DIRECT used to send files to recipients’ EHR system
• Results:
  – PDMP reports placed directly into clinical workflow, easily accessible for providers
  – Decreased the reporting time from 3 mo to 2 weeks
Michigan “ePrescribing” Pilot

- Pre-Pilot State: Phase 1 design (eRx software to query PDMP)
- Pilot: Expanded to include providers in other states (OH and IN)
- Results:
  - Providers received multistate PDMP data directly in existing eRx workflow; easily accessible for providers
Nebraska Pilot

• Pre-Pilot State:
  – Log-on via PDMP portal
  – Manually enter information

• Pilot:
  – Pt check-in, clicked on hyperlink within EHR to pull PDMP report via HIE
  – HIE returned full rx drug hx report to EHR, presented in ‘pop-up” window

• Results:
  – Easier, more streamlined access to PDMP data for providers thru seamless integration into the existing ED workflow
  – Easier access to PDMP data enables more informed decision making
  – Adding the PDMP is a single step that immediately gives access to all HIE-connected providers
Oklahoma Pilot

• Pre-Pilot State:
  – 1\text{st} state to require real-time reporting
  – Log-on via PDMP portal/manually enter information

• Pilot:
  – Single-sign on
  – Integrated PDMP data with the HIE to provide seamless access to providers
  – Alert flag (5/5/30)

• Results:
  – More streamlined access to PDMP data for providers thru seamless integration into the existing workflow
  – Easier access to PDMP data enables more informed decision making
  – Adding the PDMP is a single step that immediately gives access to all HIE-connected providers
Tennessee “Real-time Pharmacy Reporting” Pilot

**Pre-Pilot State:**
- Enacted legislation – mandatory PDMP checking
  - Explore impact of providing near-real time data
- Pharmacies reported dispensing information to PDMP on a weekly basis
  - Logged into the PDMP web portal from a separate interface; manually upload file
  - Mail to PDMP office

**Pilot:**
- Automated reporting: Leveraged OK’s “real-time reporting” technology
  - PDMP automatically receives dispensing information from pharmacies when pt picks up the prescription

**Results:**
- New process is more efficient, automatic, and within workflow
- Securely delivered dispensing information to the PDMP in real-time (5 min)
- Leveraged existing technology to promote rapid adoption
Key Takeaways

• Integrating into provider workflow reduces barriers to PDMP access and increases utilization

• Type of integration can vary
  – Value increases with degree of automation
  – But even basic integration (hyperlink to PDMP, return PDF) is valued

• When available, the PDMP is valuable as a clinical decision support tool
Communication Efforts
Oklahoma & Indiana Videos

Making A Connection
A Case for PDMP and Health IT Integration

Making a Connection
A Prescription for Improving Patient Care
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
PDMPConnect seeks to inform and unite the community of physicians, pharmacists, and health IT organizations and professionals in one forum to discuss and share ideas about enhancing access to patient prescription drug information stored in PDMPs using health IT technologies at the point of care.
Technical Framework
PDMP Ecosystem

Needs for standards (data format and content; transport and security protocols)
Standards & Interoperability (S&I) Framework: creates a forum – enabled by integrated functions, processes, and tools – where healthcare stakeholders can focus on solving real-world interoperability challenges.

**S&I PDMP Initiative:**
- Evaluate data format standard for exchanging patient information between PDMP and provider EHR systems.
- Standards proposed and evaluated by the group:
  - ASAP Web Service
  - Consolidated CDA
  - NCPDP Medication History Request/Response
  - PMIX PDMP Schemas (based on NIEM)*

*American Society for Automation in Pharmacy (ASAP), Clinical Document Architecture (CDA), National Council for Prescription Drug Programs (NCDP) and PMP Information Architecture (PMIX) Prescription Drug Monitoring Program (PDMP), National Information Exchange Model (NIEM)*
Next Steps
Next Steps:

PDMP/EHR Interoperability

- Examine technical standards that best support PDMP and EHR interoperability
- Activities: Fall 2013- Launch a PDMP initiative under the S&I Framework
  - Bring together the PDMP and health IT communities to assess the current PDMP infrastructure (e.g., interfaces, data formats, data transport and data security protocols) and available standards that could be harmonized to best establish interoperability between PDMP and EHR systems.
  - Support implementation guide development, coordinate with Standards Development Organizations, begin the balloting process, and plan pilots to test standards.
Opioid Overdose Prevention

- Identify the best existing clinical practice guideline content and incorporate into CDS used in EHR systems.

- Activities:
  - CDC will review/identify best clinical practice guideline content;
  - Convene with ONC/NIH/SAMHSA to gain consensus and prioritize care quality goals wished to achieve via CDS;
  - Incorporate this info to CDS. Enable the conversion of clinical practice guideline content into standardized/sharable CDS interventions usable in EHRs.
THANK YOU