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Use of Health Information Technology to Optimize Provider Access and Use of Prescription Drug Monitoring Information

Background
Nonmedical use of prescription drugs is a serious public health concern in the United States. The Centers for Disease Control and Prevention (CDC) reports that drug overdose deaths, most of which involve prescription drugs, now exceed deaths from motor vehicle crashes. Many states have established Prescription Drug Monitoring Programs (PDMPs) to address this growing public health problem. PDMPs are statewide databases to which pharmacists and dispensing providers submit data on controlled substances they have dispensed. PDMP data are intended to enhance health care providers’ understanding of their patients’ controlled substance history and enable providers to intervene when there are signs of prescription drug misuse.

PDMPs collect a considerable amount of important data, yet evidence suggests that doctors and pharmacists do not use them because they are difficult to access. The Department of Health and Human Services’ (HHS) Office of the National Coordinator for Health Information Technology (ONC) is leading an effort with the Substance Abuse and Mental Health Services Administration (SAMHSA), CDC, and the Office of National Drug Control Policy (ONDCP) to explore opportunities to use health IT to improve health care providers’ ability to access important PDMP data at the point of care. The project seeks to demonstrate that improved access to PDMPs through the use of health IT can reduce prescription drug misuse and overdose in the United States.

The “Enhancing Access” Project
With the assistance of HHS Agencies and ONDCP, ONC funded a project (Enhancing Access to Prescription Drug Monitoring Programs using Health Information Technology (the “Enhancing Access project”)) led by the MITRE Corporation to improve timely use of PDMP data by providers, emergency department physicians, and pharmacists. The Enhancing Access project integrated existing technologies like electronic health records (EHRs) and pharmacy systems to securely connect to state PDMPs. Six pilots were conducted in five states - Indiana, Ohio, Washington, Michigan, and North Dakota - to rapidly test the use of health IT to enhance PDMP access and assess whether increased use of secure PDMP data would affect clinical decision-making. As part of the pilot projects, PDMP data were made available to physicians at the point
of care as part of their normal workflow. The project tested various low-cost solutions in a variety of settings that showed real solutions, real results, and real stories.

**General Findings**
The six pilots successfully demonstrated the ability to improve access to PDMP data using health IT as well as the associated benefits to health care providers and pharmacists. Before these pilots were implemented, most health care providers and pharmacists reported that they rarely accessed available PDMP data in large part because it required them to interrupt their normal workflow (e.g., they often had to exit their EHR workspace and log on to a separate PDMP website to initiate a patient search). The configurations of the pilot projects streamlined the workflow process so querying and processing steps could be automated by technology, making it easier to access the PDMP data - leading to increased knowledge about their patients’ past prescription drug history. These actions helped enhance providers’ ability to make clinical decisions.

Although the pilot study designs spanned different health IT models and included a range of participants and workflow configurations, the following three universal findings emerged:

- Once prescriber and dispenser communities were connected to the PDMP, immediate improvement to the patient care process was achieved;
- User workflows were streamlined and improved; and
- Physician and pharmacist satisfaction was highest when technology automated the majority of workflow tasks.

**White Papers**
In February, ONC released seven white papers (one summary white paper and a paper for each pilot) stemming from the *Enhancing Access* project. The white papers describe in detail each pilot’s design, technical configuration, and methods. The white papers also detail each pilot’s individual evaluation elements and specific results, which touch on findings across several themes, including clinical and technical impact, usability, and scalability. These details may be useful to PDMP stakeholders who wish to recreate the pilot conditions for broader implementation.

**Integrating an Emergency Department with a PDMP**
The Indiana Regenstrief Emergency Department (ED) pilot demonstrated health IT’s value by making PDMP data readily available to ED physicians during patient encounters. The pilot integrated Indiana’s PDMP system with an ED management system by using an interstate PDMP data sharing hub. Prior to the pilot, PDMP data were rarely accessed because 1) it was not part of prescribers’ regular workflow; and 2) it was too time consuming. As a result of the pilot, a majority of participants reported that the new design was easier to use and reported changes in their prescribing.
Using Direct Messaging to Send Secure, Unsolicited Patient-at-Risk Alerts

The Indiana Direct Messaging pilot demonstrated how providing unsolicited reports for “at-risk” patients through secure electronic messaging could improve prescriber awareness of potential prescription drug abuse. The Indiana PDMP provided weekly “person of interest (POI)” alerts to prescribers at ambulatory clinics based on a defined “at-risk” threshold of prescription drugs obtained by a given patient. Prior to the pilot, POI alerts were sent to prescribers via regular email or postal mail if one of their patients exceeded a given threshold. The new design enabled patient information to be shared in a more secure and timely manner.

Integrating E-Prescribing with a PDMP

The Michigan pilot made PDMP data more readily available during patient encounters by enhancing existing electronic prescribing software to include PDMP data in patients’ medication history. The pilot streamlined PDMP access for ambulatory providers by using an interstate PDMP data sharing hub (even though the practice was located within the same state) to enable system-to-system integration. Prior to the pilot, the e-prescribing software did not have access to PDMP data and, thus, was missing an important source of controlled substance prescription history. The new design improved usability and workflow integration and gave providers access to controlled substance prescription history data that would not otherwise have been available.

Linking the Indian Health Service (IHS) Pharmacy to a PDMP

The IHS pilot demonstrated how health IT could help make data more readily available during patient encounters within the pharmacy system. The pilot demonstrated that the existing process for checking insurance eligibility could also be used to automate a query to the state PDMP. This process eliminated the need for pharmacists to perform manual checks. Pilot participants indicated that the new approach made it easier to look up patients which also resulted in a substantial increase in queries to the PDMP.

Linking an Opioid Treatment Program to a PDMP

The Opioid Treatment Program (OTP) pilot demonstrated how health IT could be used to implement a simple, low-cost approach to accessing PDMP data. The pilot streamlined access to the state PDMP by adding a hyperlink within an EHR that allowed physicians to directly access the state’s PDMP portal without leaving the EHR. This approach optimized an existing operational policy that required all physicians to check the state PDMP (through a separate workflow) for the prescription drug history of all their patients. Once the new process was implemented, results showed an unexpected increase in the use of the PDMP – a result of the convenient location of the hyperlink within the clinical workflow making access easier.
**Physician Practice EHR Integration with a PDMP: A Pilot Study**

The Ohio pilot improved ambulatory care providers’ access to PDMP data by connecting the EHR system to the PDMP using a Health Information Exchange (HIE) and presenting patient “at-risk” scores (for prescription drug abuse) in the EHR to be used during patient encounters. Before pilot implementation, the physicians rarely accessed the PDMP because doing so required them to leave the EHR workspace and separately log-in to the state PDMP website. The new pilot configuration streamlined this process by allowing the technology to perform the querying and processing tasks – resulting in an easier to use process, more information on patients at risk at the point of care, and improved workflow integration.

**Next steps**

- **Pilots – Current Status**
  Four of the six pilots have continued since their initial pilot phase, with three being expanded under the next phase of the *Enhancing Access* project which began in fiscal year 2013. These three expanded pilots are focused on increasing the number of sites (to test scalability) or the number of states supplying PDMP data. In addition, four new pilots were started as part of the *Enhancing Access* project. These four pilots will test new types of integration, including connecting through an HIE and looking at how data can be sent in near real-time from a pharmacy into the PDMP.

- **Resource Center**
  ONC will be launching a “PDMP Resource Center” at [www.HealthIT.gov](http://www.HealthIT.gov). This resource center will provide ongoing information about the types of data connectivity programs underway; identify the resources needed to create PDMP/health IT connections; and provide video stories, articles and news flashes to educate and build awareness about the field. The resource center will enable the entire PDMP community to share its experiences in one location.

Visit [www.healthit.gov/PDMP](http://www.healthit.gov/PDMP) to find out more about this innovative project.