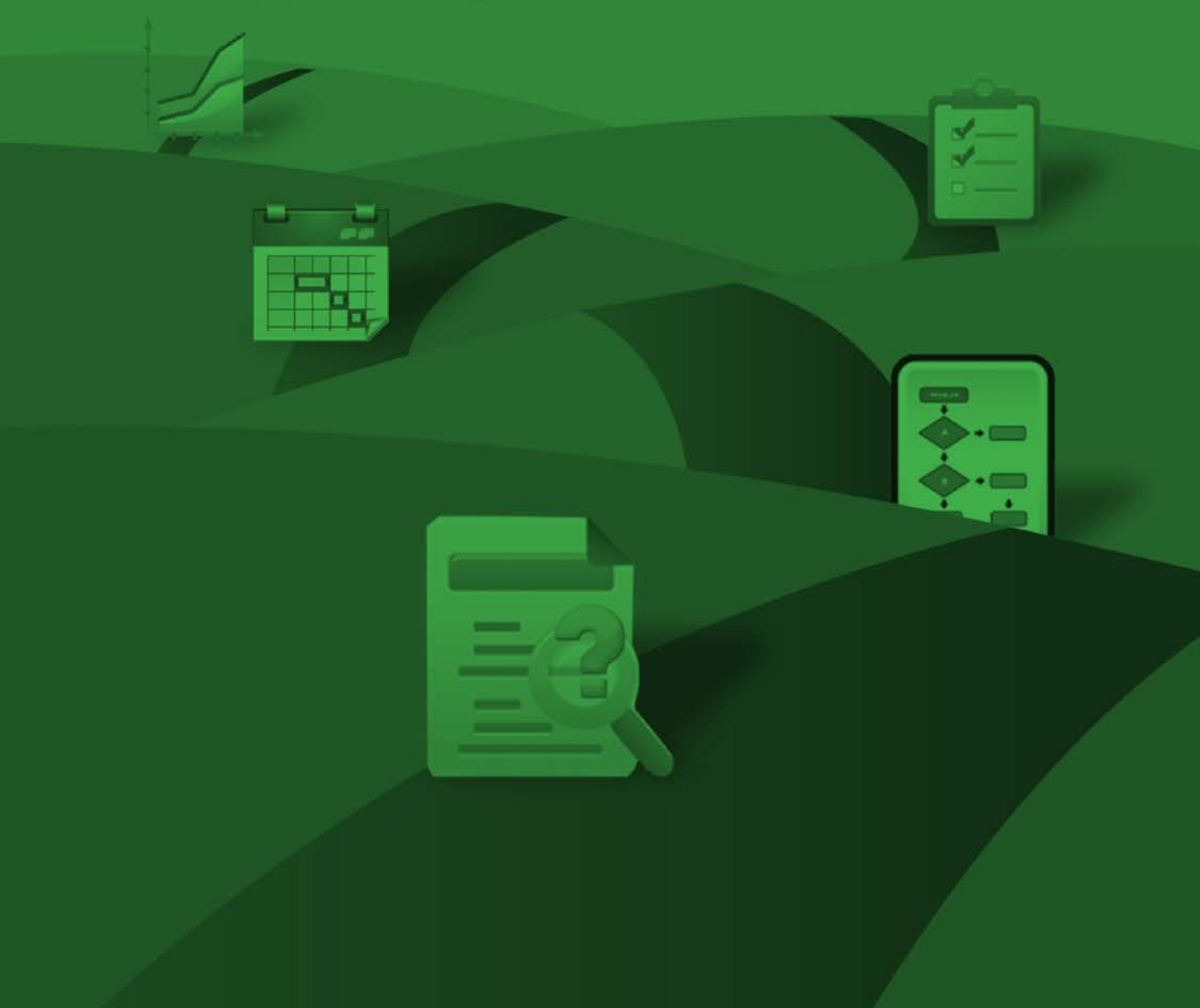


THE ROAD TO CONNECTIVITY:

A Roadmap for Connecting to Prescription Drug Monitoring Programs Through Your Electronic Health Record



THE ROAD TO CONNECTIVITY

A Roadmap for Connecting to Prescription Drug Monitoring Programs (PDMPs) through Your Electronic Health Record (EHR)



Are you interested in exploring how to connect your patients' controlled substance histories into your EHR?

Are you interested in collaborating with the clinicians in your state in order to put patient controlled substance data in their hands at the point of care?



The **Roadmap** is your guide to help you navigate the process of connecting an EHR to PDMP data. Included are the fundamental steps and key questions to help you navigate this process as you begin to identify and configure your technical connections and clinical workflows:

1. Environmental Scan
2. Connection Models
3. Project Plan
4. Training and Implementation
5. Evaluation and Optimization

Appendix - Resources

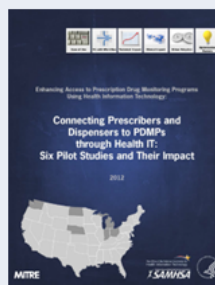
(more detail on the following page)

To maximize the utility of the Roadmap, use it in conjunction with the 2012 Pilot Reports and 2013 Implementation Report:

Roadmap



2012 Pilot Reports



2013 Implementation Report



THE ROAD TO CONNECTIVITY

A Roadmap for Connecting to Prescription Drug Monitoring Programs (PDMPs) through Your Electronic Health Record (EHR)



1. Environmental Scan

Connecting to the Prescription Drug Monitoring Program in your state depends upon your state's laws and how clinical practitioners would like to receive a patient's prescription drug history.

Data PULL: Patient data is solicited at the point of care by the provider.

Data PUSH: All patient data exceeding a state determined threshold is delivered from the PDMP to the provider.

[Read more starting on page 4](#)



2. Connection Models: Technology Logic and Workflows

Mapping the technology flow enables you to identify the following requirements:

- The flow of information and how systems connect.
- Legal and business agreements.
- PDMP data receipt and display in the EHR.

[Read more starting on page 7](#)



3. Project Plan

Building a master schedule that includes all tasks and requirements enables you to successfully manage connecting to the PDMP data across multiple organizations.

[Read more on page 20](#)



4. Training and Implementation

Aligning interrelated clinical workflows with newly available data and preparing the clinical practitioners for the "Go Live" ensures a smooth transition to adopting the new technical connection to the PDMP within the care environment.

[Read more on page 21](#)



5. Evaluation and Optimization

Monitoring the implementation using metrics (quantitative) and user feedback (qualitative) informs you about the impact of the change and assists in refining and optimizing your processes.

[Read more on page 22](#)



1. Environmental Scan

This section prompts you to survey the technical landscape of your state's PDMP and your EHR. Become familiar with the features of your state's PDMP, understand the two fundamental ways to connect to PDMP data and then assess opportunities and limitations with system connectivity.

► **Determine the capabilities of your state's PDMP.**

Question	Yes	No
Does the PDMP currently receive prescription drug (Schedules II-V) dispensing data from pharmacies?	PDMP may be operational (continue).	PDMP is not fully operational.
Does the PDMP have web portal access so that approved users can register, login and individually access the data for their patients?	PULL Model #1 (p. 11) PULL Model #2 (p. 12)	PDMP is not fully operational for all PULL models.
Does the PDMP generate and deliver unsolicited reports? ▪ If yes, by what methods (specifically, can it deliver the alerts electronically)?	PUSH Model #1 (p. 17) PUSH Model #2 (p. 18)	Must pursue the PULL models.
Does the PDMP have any limitations on who can access patient prescription drug data? ▪ Prescribers ▪ Pharmacists ▪ Pharmacy ▪ Law Enforcement ▪ Licensing Boards ▪ Patients	Selection of a connection model and specific configuration features will be dependent upon who can access the data <u>and</u> who cannot access the data*	Can fully investigate PUSH and PULL models albeit other limitations may apply.
Does the PDMP have an application programming interface (API)? ▪ Does the PDMP have the ability to allow other systems to connect to it?	PULL Model #3 (p. 13) PULL Model #4 (p. 14) PULL Model #5 (p. 15) PULL Model #6 (p. 16) Can also connect to intermediary systems if there is an issue with a direct connection between the EHR and PDMP.	Options ▪ Investigate interstate data hub ▪ Build custom interface between EHR and PDMP ▪ PULL Models #1 & #2 ▪ PUSH Models #1 & #2
Is the PDMP already connected to an interstate data hub?	▪ Can be used as an intermediary between the EHR and PDMP. ▪ Option to access multi-state data.	Explore if there is an interstate hub and the feasibility of connecting to it.

* If a patient cannot access the PDMP data, the data may not be able to persist in the EHR and be discoverable via HIPAA

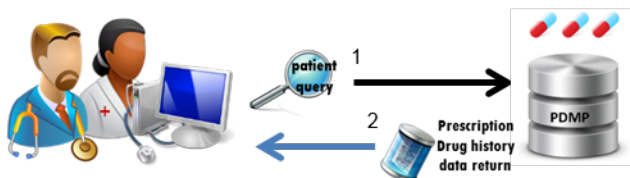
► Learn more about your state's PDMP on www.healthIT.gov/PDMP/PDMPCConnect (refer to the map)



1. Environmental Scan

- ▶ Determine the preferred method for receiving a patient's prescription drug history data.

PULL (Solicited Queries)



A prescriber (physician, provider) or pharmacist makes a purposeful action to initiate a patient query to the PDMP for controlled substance data

- ▶ Purposeful action can be manual or automated
- ▶ Configuring a solicited request allows for a range of customization in the following ways:
 - How to initiate the query, especially from within the EHR.
 - How a patient's PDMP history is displayed in the EHR (content, format).
 - How health information systems are leveraged together to create an optimal flow of information.

Benefits

- ▶ Optimize the availability of the data by leveraging health IT systems.
- ▶ Optimize the accessibility of the data by delivering at the point of care.

PUSH (Unsolicited Alerts)



Many PDMPs (about 35) generate unsolicited reports according to a reporting cycle based on pre-established criteria (threshold) that may indicate a patient is at risk for drug abuse or misuse.

A threshold defines the number of prescribers and pharmacies that a patient used in a given timeframe, (e.g., 6/6/2):

- Meeting or exceeding 6 prescribers OR
- Meeting or exceeding 6 pharmacies
- In a 2 month (60 days) timeframe

The reporting and distribution cycle is determined by the state's PDMP. Modes of delivery can include the US postal mail service, email notification (no PHI), and secure electronic mail.

The reports are typically standardized in terms of content and format and are delivered in a batch (set of patients) to each impacted prescribers and pharmacies.

Benefits:

- ▶ Relatively easy to set up.
- ▶ If physicians do not have an EHR or e-prescribing system, this is a good method to routinely receive vital information.

EFFORT	
Technical Setup & Resources	📶
Maintenance	📶
IMPACT	
Available at Point of Care	★
Ease of Use	★
Patient Care Outcomes	★



EFFORT	
Technical Setup & Resources	📶
Maintenance	📶
IMPACT	
Available at Point of Care	★
Ease of Use	★
Patient Care Outcomes	★



1. Environmental Scan

- ▶ **Assess the technical landscape and the capabilities of your EHR to determine whether intermediary systems and/or organizations will need to be involved to facilitate the flow of information.**

The simplest technical connection between an organization's EHR and the PDMP is through an established standard interface; however, there may be reasons why standard system-to-system communication (query and response) is not ideal or even possible. Using intermediary system(s) and services may be required to address those technical deficiencies.



Your state has a health information exchange (HIE).



Your EHR may already be interfaced with a state HIE or have the potential for this integration point:

- Interfacing the state's PDMP data with the HIE allows the clinician to view the patient's PDMP history in addition to the patient's other clinical history.



You would like to explore using the Direct protocol for routing messages in either the PULL or PUSH models.



The Direct Project can be used to securely move information:

- Setting up a secure mailbox inside or outside of the EHR.
- Using the Direct protocol to deliver PDMP formatted reports into the EHR as a stored document.



Your state's PDMP does not have an application programming interface (API).



Your state's PDMP may be connected to an interstate PDMP data sharing hub:

- Interstate data hubs for PDMPs facilitate the secure sharing of data between state prescription monitoring programs while allowing each participating state the full autonomy to enforce its own rules and policies for data access.
- Your EHR may be able to interface with this data sharing hub to process PDMP request and response transmissions.
- Additional benefit to clinicians is receiving multi-state PDMP data for patients.



Your EHR needs assistance to facilitate the flow of information during the query and/or needs assistance to receive the PDMP response in the desired format.



Depending upon the size (IT department) and the capabilities of your organization, you may involve other organizations or open source tools to facilitate the flow and formatting of PDMP data. The following functions are some examples:

- Adapting an 'Admit Discharge Transfer' (ADT) message to an appropriate request format.
- Toolkit software to format the PDMP data into a PDF report (response to EHR).
- Benefits engine to route query and response messages.

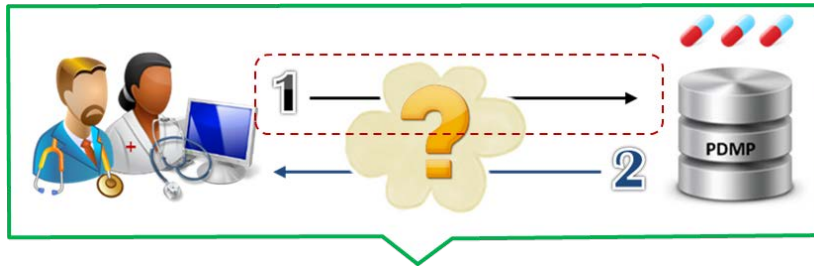


2. Connection Models








Technology Logic and Workflows

As you are designing and evaluating what connection model will work best for you and your organization, be mindful of and examine the factors that will determine the feasibility of how you will proceed.

This assessment occurs in both directions – the query and the response – since you cannot assume that the requirements are the same for the flow of information in both directions.



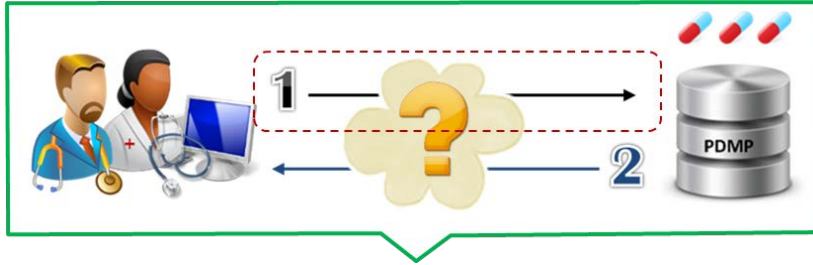
1 How to make a query to your state's PDMP (**PULL**)

 Part 1: Overarching Flow of Information Questions Assess the system-to-system, EHR-to-PDMP, technical capabilities for transmitting a patient prescription drug data request to your state's PDMP		
 Identify participating organizations	<ul style="list-style-type: none"> Who are all the entities involved in requesting PDMP data? Who owns or manages the software involved? What state or local officials need to be involved? 	
 System handoffs and coordination	<ul style="list-style-type: none"> Who will help move the data from system to system? What types of technology might be involved? Who has the expertise and authority to perform technical work? 	
 MOUs and business agreements	<ul style="list-style-type: none"> What agreements are required to request data? Which entities need to be protected? 	
 Security and privacy protocols	<ul style="list-style-type: none"> What federal, state, and organizational privacy and security laws/policies impact making a PDMP request for data? What technology and new rules need to comply with the laws? 	
 Authentication and authorization	<ul style="list-style-type: none"> What laws govern how a PDMP validates requestor credentials? Who is allowed to request PDMP data in your state? Is delegation permitted? 	
 Data requirements for display and storage	<ul style="list-style-type: none"> Does your state allow storage of PDMP data outside the PDMP? What data do the health professionals need to see? Can this data be discoverable through HIPAA? 	



2. Connection Models

Technology Logic and Workflows



continued

1 How to make a query to your state's PDMP (**PULL**)

Part 2: Clinical Workflow Questions

Determine the mechanism (how and where) in the clinical systems workflow for initiating the patient search



Automatic or manual query

- Will the query be triggered by a person (pressing a button or hyperlink)?
- Will the query be automatically triggered by a patient event (ER registration, scheduling an appointment, patient arrival for an appointment, etc.)?



Placement of the query step

- When in the workflow should the query be initiated (general patient record, in medication history tab, during prescribing)?
- What is the screen placement of the query (in the patient record, separate tab for PDMP data, etc.)?

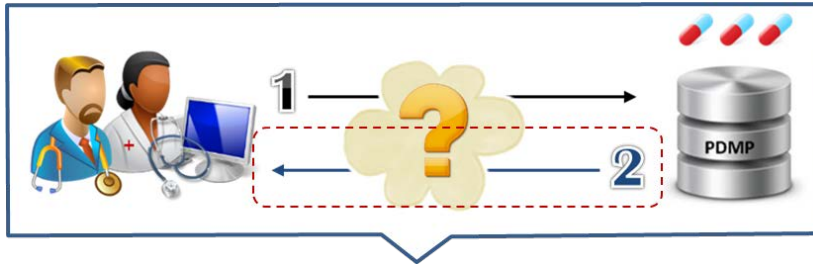
After you have started addressing the questions around how to make a query to your state's PDMP, begin examining how the data is returned to the requestor (prescriber or pharmacist in the EHR).

(these next questions on following page)



2. Connection Models

Technology Logic and Workflows



2 How data is returned from your state's PDMP (**PULL**, **PUSH**)

Reminder: The table below contains similar questions you addressed for the query of PDMP data, but they now specifically pertain to the receipt of data from the PDMP. Please proceed with answering these questions since you cannot assume that the requirements for the query are exactly the same as for the response.

Part 1: Overarching Flow of Information Questions



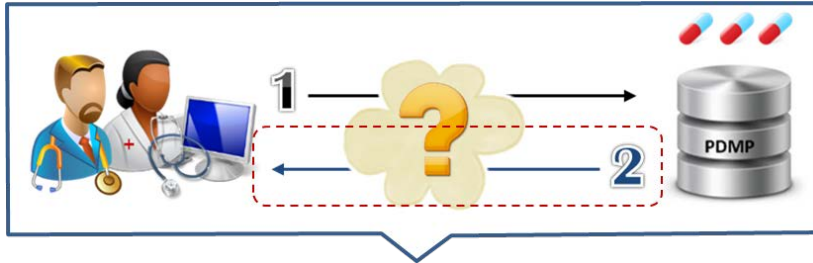
Assess the system-to-system, PDMP-to-EHR, technical capabilities for transporting a patient's prescription drug data from the PDMP into your EHR in a usable format

	Identify participating organizations	<ul style="list-style-type: none"> Who are all the entities involved in transmitting PDMP data? Who owns or manages the software involved? What state or local officials need to be involved?
	System handoffs and coordination	<ul style="list-style-type: none"> Who will help move the data from system to system? What types of technology might be involved? Who has the expertise and authority to perform technical work?
	MOUs and business agreements	<ul style="list-style-type: none"> What agreements are required to receive data? Which entities need to be protected?
	Security and privacy protocols	<ul style="list-style-type: none"> What federal, state, and organizational privacy and security laws/policies impact the PDMP transmitting data? What technology and new rules need to comply with the laws?
	Authentication and authorization	<ul style="list-style-type: none"> What laws govern how a PDMP validates requestor credentials? Who is allowed to view PDMP data in your state? Is delegation permitted?
	Data requirements for display and storage	<ul style="list-style-type: none"> Does your state allow storage of PDMP data outside the PDMP? What data do the health professionals need to see? Can this data be discoverable through HIPAA?



2. Connection Models

Technology Logic and Workflows



continued

2 How data is returned from your state's PDMP (**PULL**, **PUSH**)

Part 2: Clinical Workflow Questions

Determine where the return of the patient's prescription drug data occurs in the EHR and in what form (content and format)



	<p>Response determination</p>	<p>Determine how the following query responses will be processed:</p> <ul style="list-style-type: none"> What data is returned when there is an exact patient match? Is any response returned when there is no patient match (any data in the PDMP)? How is an ambiguous response (multiple patients matched to the one query) handled?
	<p>Determine where and how the data is returned in the EHR</p>	<ul style="list-style-type: none"> Determine the format of the data – amount of data and how it is organized. Discuss options for having “Alerts”, “Flags” or “Risk Assessment” values in addition to a listing of the discrete data: <ul style="list-style-type: none"> Determine definitions for responses (e.g. what does a green flag mean versus a red flag). Develop the algorithm for calculating an alert, flag, etc. Validate that the return of information, the content, is easily consumable and useful. Determine the file format (PDF, HTML, image, etc.) which depends on PDMP and EHR capabilities.
	<p>Determine if the data is stored in the EHR and documentation guidelines</p>	<ul style="list-style-type: none"> Are there any storage implications to your organization (e.g. if the query is automatic for every ER registration and a PDF report is returned and stored)? Are there any restrictions given HIPAA (e.g. a patient cannot access PDMP data so there cannot be any discoverable documentation in the EHR)? Determine if there are any guidelines needed organizationally for documenting how PDMP data is used.



2. Connection Models

Technology Logic and Workflows

Let's generate ideas for making your connection to the PDMP. The next section gives you a menu of models that were sponsored by the Office of the National Coordinator for Health IT (ONC) and the Substance Abuse and Mental Health Services Administration (SAMHSA) and successfully implemented across the United States.

They are presented by Pull and Push methods of connecting to the PDMP. These scenarios should prompt inspiration for your organization to design the connection that best meets your needs . . .

- Model directly replicating a configuration you see in the following pages or
- Use a model or combination of model features as a launch pad for customizing your own way to connect

The models include features pertaining to the overall technical connections related to the flow of information (request and response) and the technical features in the EHR workflow.

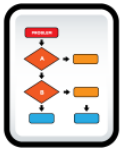
PULL (Solicited Queries)

Connection Model	Page
1. Directly accessing the PDMP via the web portal	12
2. Hyperlink to the PDMP web portal launched from within EHR	13
3. Manually activating a query to the PDMP within the EHR	14
4. Automatically querying the PDMP (based on an arrival trigger)	15
5. Automatically querying the PDMP through an HIE	16
6. Initiating a PDMP query through e-prescribing	17

PUSH (Unsolicited Alerts)

Connection Model	Page
1. PDMP report delivered via DIRECT protocol* outside the EHR	18
2. PDMP report delivered via DIRECT protocol* inside the EHR	19

* can also apply other electronic delivery methods to both PUSH models



2. Connection Models

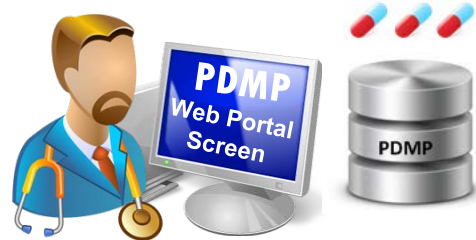
Technology Logic and Workflows

PULL #1

Directly accessing the PDMP via the web portal



Log on separately to access PDMP data.



Features

- Typically requires individual registration with the PDMP and this may include a notarization process.
- Requires ongoing maintenance of username and password, especially when the PDMP has not been accessed in a defined period of time or when a clinician forgets the password.
- Is a “Selective Query” process that requires thoughtful action to leave the EHR in order to access the PDMP.
- Includes time considerations for logging in and querying.
- Requires system entry of patient demographic information in order to initiate the search.
- Effort is required to initiate a search which may yield a “no data return”.
- Requires assessment of which workstations in your clinical setting have Internet capability.
- Limited customization, if any, of the PDMP report format.

Considerations for maximizing the connection



Decision-Support

Create a list of the most likely patient complaints where having PDMP data is critical.

- ▶ Use this list as a guideline for prescribers, recommending when to access the PDMP.



Dual screen setup to support accurate and faster data entry.

- ▶ Learn more about your state’s PDMP on www.healthIT.gov/PDMP/PDMPConnect or www.pmpalliance.org.

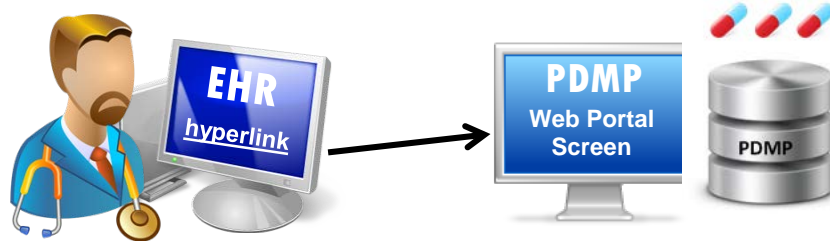


2. Connection Models

Technology Logic and Workflows

PULL #2

Direct connection to your state's PDMP through a hyperlink in your EHR



Clinician 'clicks' hyperlink to open a separate window to the PDMP web portal login screen.

Features

- Typically requires individual registration with the PDMP and this may include a notarization process.
- Requires ongoing maintenance of username and password, especially when the PDMP has not been accessed in a defined period of time or when a clinician forgets the password.
- Is a "Selective Query" process that requires thoughtful action to leave the patient context in order to access the PDMP.
- Option to place the hyperlink in the specific patient screen so that the query request launches from the patient context.
- Includes time considerations for logging in and querying.
- Requires system entry of patient demographic information in order to initiate the search.
- Effort is required to initiate a search which may yield a "no data return".
- Requires assessment of which workstations in your clinical setting have Internet capability.
- Limited customization, if any, of the PDMP report format.

Considerations for maximizing the connection



Decision-Support

Create a guideline based on the patient's presenting complaint advising other clinical information in the patient's record to review:

- Use this guideline for prescribers, recommending when to access the PDMP.



Dual screen setup to support accurate and faster data entry.

- At www.healthIT.gov/PDMP/PDMPConnect see the 2012 Washington Pilot paper in the **Featured** section.

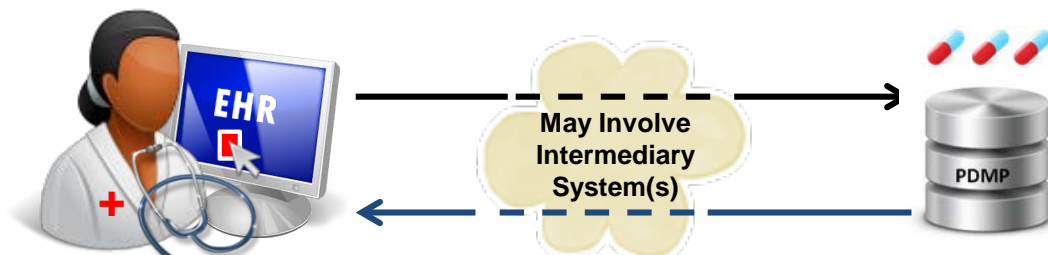


2. Connection Models

Technology Logic and Workflows

PULL #3

Manually activating a query to the PDMP from inside the EHR



Clinician “clicks” a button or hyperlink to initiate a query to the PDMP for the patient’s prescription drug information.

Features

- Depending upon the system-to-system connection configuration, individual registration process with the PDMP may still be required (and this may include a notarization process).
- Depending upon your state’s laws, an institution (like a hospital) may be authorized as a provider so that single sign-on can be facilitated through the institution’s credentials.
- Single sign-on functionality will seamlessly transmit information:
 - Provider authentication credentials.
 - Patient demographic information (those required).
- Is a “Selective Query” process that requires thoughtful action to initiate the request for the patient’s prescription drug data.
- Option to place the query button or hyperlink in the specific patient screen so that the query request launches from the patient context.
- Effort is required to initiate a search which may yield a “no data return”.
- Options for where and how the clinicians would like to receive the PDMP data output:
 - Information integrated into the patient’s record, e.g. PDF document.
 - Information reviewed through a viewer, e.g. another window is opened to display the data.
 - Risk assessment score or flag is returned.
- Options to select the data content and design the format of the information.

Considerations for maximizing the connection



Decision-Support

Create a guideline based on the patient’s presenting complaint advising other clinical information in the patient’s record to review. Use this guideline for prescribers, recommending when to access the PDMP.



Assess where in the care process to query the data in order to optimize the physician-patient interaction.



Given the care setting, design the display (content, format) of the prescription drug data to best meet those needs.



Documentation and storage of this patient information in the EHR is dependent upon your state’s laws.

- At www.healthIT.gov/PDMP/PDMPConnect see the 2012 North Dakota Pilot paper and the 2013 Nebraska Pilot paper in the **Featured** section.

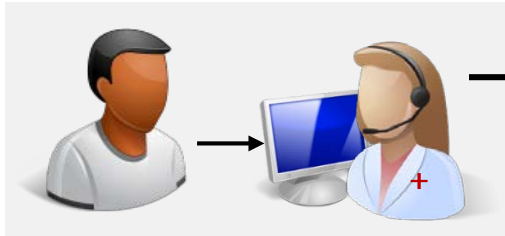


2. Connection Models

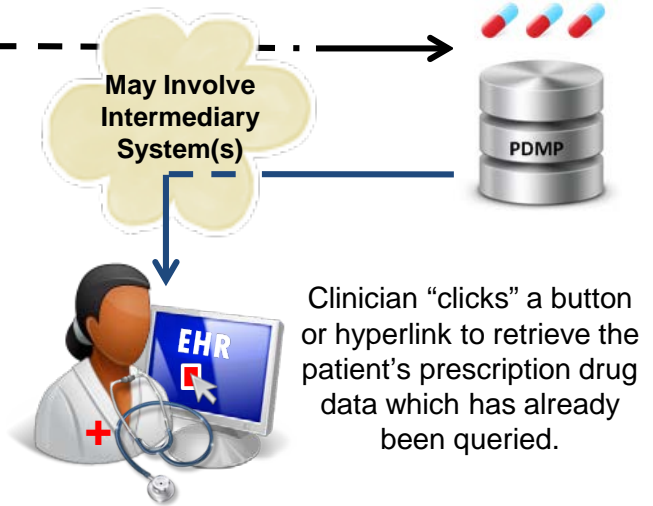
Technology Logic and Workflows

PULL #4

Automatically querying the PDMP (based on a patient trigger)



A query is automatically sent to the PDMP based on a patient arrival or scheduling event.



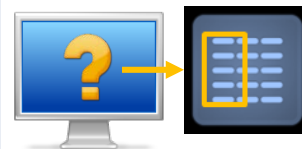
Features

- Depending upon your state’s laws, an institution (like a hospital) may be authorized as a provider so that single sign-on can be facilitated through the institution’s credentials.
- Single sign-on functionality will seamlessly transmit information:
 - Provider authentication credentials.
 - Patient demographic information (those required).
- Is an “Automatic Query” process that initiates the request for the patient’s prescription drug data for all patients who meet the trigger (e.g. registered in ER, schedule an appointment) regardless of presenting complaint.
- Options for where and how the clinicians would like to view the PDMP data output in the patient context:
 - Information integrated into the patient’s record, e.g. PDF document.
 - Information reviewed through a viewer, e.g. another window is opened to display the data.
 - Risk assessment score or flag is returned.
 - Visual cue to indicate if there is no PDMP data (e.g. hyperlink is greyed out).
- Options to select the data content and design the format of the information.

Considerations for maximizing the connection



Assess where in the care process to review the data in order to optimize the physician-patient interaction.



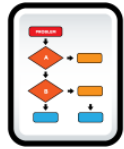
Integrate a risk score or flag on patient intake listing.

Given the care setting, design the display (content, format) of the prescription drug data to best meet those needs.



Documentation and storage of this patient information in the EHR is dependent upon your state’s laws.

- At www.healthIT.gov/PDMP/PDMPConnect see the 2012 Ohio Pilot paper and the 2013 Illinois Pilot paper in the **Featured** section.

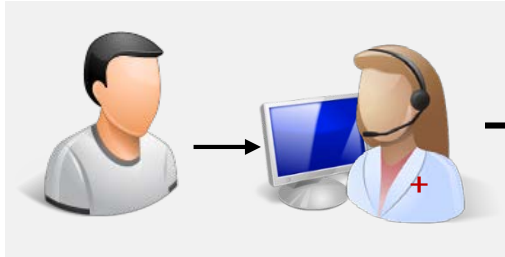


2. Connection Models

Technology Logic and Workflows

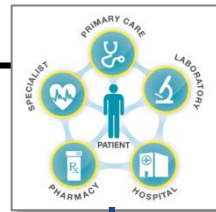
PULL #5

Automatically querying the PDMP through an HIE



A query is manually or automatically sent to the PDMP based on a patient arrival or scheduling event.

Health Information Exchange (HIE)



Clinician “clicks” a button or hyperlink to retrieve the patient’s clinical history and prescription drug data.

Features

- Depending upon your state’s laws, an institution (like a hospital) may be authorized as a requestor so that single sign-on can be facilitated through the institution’s credentials.
- Single sign-on functionality will seamlessly transmit information:
 - Provider authentication credentials.
 - Patient demographic information (those required).
- Is an “Automatic Query” process that initiates the request for the patient’s prescription drug data when it is initiating the request for existing clinical history in the HIE.
- Options for where and how the clinicians would like to view the PDMP data output in the patient context:
 - Information integrated into the patient’s record, e.g. PDF document.
 - Information reviewed through a viewer, e.g. another window is opened to display the data.
 - Risk assessment score or flag is returned.
 - Visual cue to indicate if there is no PDMP data (e.g. hyperlink is grayed out).
- Options to select the data content and design the format of the information.

Considerations for maximizing the connection



Assess where in the care process to review the data in order to optimize the physician-patient interaction.



Integrate a risk score or flag on patient intake listing.

Given the care setting, design the display (content, format) of the prescription drug data to best meet those needs.



Documentation and storage of this patient information in the EHR is dependent upon your state’s laws.

- ▶ At www.healthIT.gov/PDMP/PDMPConnect see the 2013 Nebraska Pilot, Indiana Pilot, and Oklahoma Pilot papers in the **Featured** section.

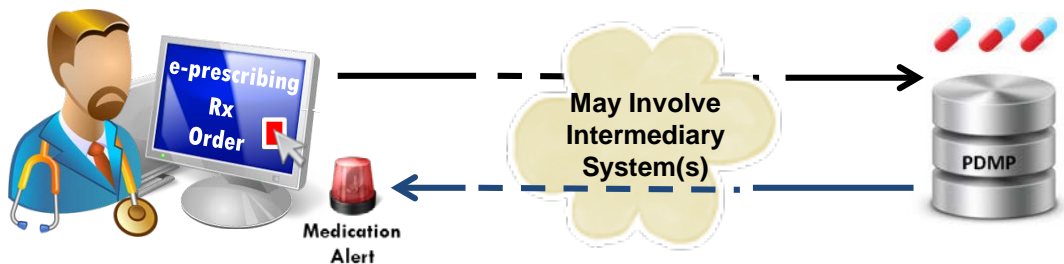


2. Connection Models

Technology Logic and Workflows

PULL #6

Initiating a PDMP query through e-prescribing



Features

- Single sign-on to seamlessly transmit information:
 - Authentication credentials.
 - Patient demographic information is seamlessly passed through the request.
- Automated query and/or alert response occurs at the prescribing step and is located in the patient context.
- Alerts based on PDMP data at prescribing in conjunction with other medication history can now enhance the following :
 - Medication and allergy interactions.
 - Medication to Medication interactions.
 - Duplicate Therapy instances.
 - A “stop and consider” step if a risk score or flag has a particular value or exceeds a threshold value.
- Option to design what the alert is and a mechanism to view the detailed PDMP report information in response to an alert.
- The NCPDP data standard can be leveraged.

Considerations for maximizing the connection



Assess where in the care process to review the data in order to optimize the physician-patient interaction.



Design the display (content, format) of the prescription drug data to meet “Alert” needs as well as for detailed follow up.



Documentation and storage of this patient information in the EHR is dependent upon your state’s laws.

- ▶ At www.healthIT.gov/PDMP/PDMPCConnect see the 2013 Michigan/Ohio/Indiana e-Prescribing Pilot paper and the 2013 Indiana Pilot paper in the **Featured** section.



2. Connection Models

Technology Logic and Workflows

PUSH #1

PDMP report delivered via DIRECT protocol outside the EHR



Features

- This option is available if the state's PDMP offers the service of sending out unsolicited alerts and will depend upon the following:
 - State has defined threshold limits by which alerts are generated.
 - PDMP has a defined frequency with which it generates and sends out alerts.
 - PDMP most likely has a standard alert process and report format for all of its notifications, e.g. sends out one set of alerts (secure message containing multiple patients) to an impacted prescriber.
- Accessing the secure electronic mailbox will have the following features:
 - Requires setting up a secure mailbox with potential operational fees and login/password maintenance:
 - Certified Direct account with public/private key combination.
 - Requires the physician to be mindful and routinely check the mailbox for any alerts according to the delivery schedule.
 - Requires the physician to leave the patient context.
 - Physician will determine what the next actions are (without the patient being present) and how to document the information.
- Depending upon the frequency of generating the alerts, over time the set of alerts may appear to have redundancy, i.e. a subset of the same listing of patients.

Considerations for maximizing the connection



Physicians and the care team meet to discuss ways to become aware of patients who are on the alerts for future visits.



Determine documentation guidelines in the patient's record, if applicable.

- ▶ At www.healthIT.gov/PDMP/PDMPConnect see the 2012 Indiana Direct Pilot paper in the **Featured** section.

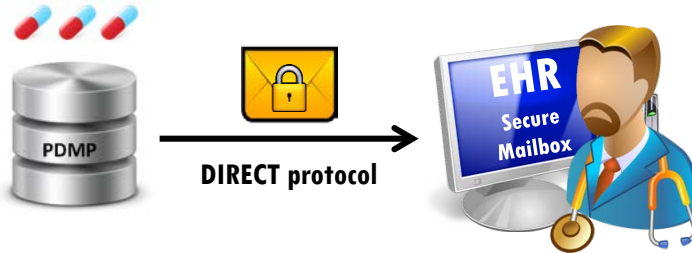


2. Connection Models

Technology Logic and Workflows

PUSH #2

PDMP report delivered via DIRECT protocol inside the EHR



Features

- This option is available if the state's PDMP offers the service of sending out unsolicited alerts and will depend upon the following:
 - State has defined threshold limits by which alerts are generated.
 - PDMP has a defined frequency with which it generates and sends out alerts.
 - PDMP most likely has a standard alert process and report format for all of its notifications, e.g. sends out one set of alerts (secure message containing multiple patients) to an impacted prescriber.
- Accessing the secure electronic mailbox within the EHR will have the following features:
 - Accessing the mailbox uses the same authentication credentials as those used for the EHR, i.e. stay within the EHR context.
 - Requires the physician to be mindful and routinely check the mailbox for any alerts according to the delivery schedule.
 - Physician will determine what the next actions are (without the patient being present) and how to document the information.
- Depending upon the frequency of generating the alerts, over time the set of alerts may appear to have redundancy, i.e. a subset of the same listing of patients.

Considerations for maximizing the connection



Physicians and the care team meet to discuss ways to become aware of patients who are on the alerts for future visits.



Determine documentation guidelines in the patient's record, if applicable.

- ▶ At www.healthIT.gov/PDMP/PDMPConnect see the 2013 Kansas Pilot paper in the **Featured** section.



3. Project Plan

Once you have finalized a connection model with all questions answered, you need to build a project plan.

Master Schedule

Develop a written project plan to guide and track progress of the PDMP connection process from concept to execution:

- Identify activities (tasks, deliverables).
- Identify who is accountable for completing the activity.
- Assign timeframes (dates) for completing activities.
- Determine task precedents and dependencies.
- Convene workgroup meetings at least 1x/week to ensure the implementation stays on track, including documenting minutes.

Design

Identify and define the following requirements:

- Legal (for data sharing, transport, and storage in your state – requirements for authentication and authorization).
- Participating Organizations (identify those who are required in processing the flow of information).
- Technical (system interfaces and programming – determining how to make the data available).
- Operational (placement and format of data in EHR – determining how/where the data is accessed).

Development

- Create Memorandums of Understanding (MOUs) and contracts between participating organizations – privacy and security policies.
- Pre-work (establish secure test environment(s), process access credentials, activate accounts).
- Document the flow of information and operational workflows.
- Program system code and interfaces (per requirements), including use of open source tools.

Testing and Demonstration

- Verify connectivity to the PDMP.
- Verify user authentication.
- Validate EHR data acquisition (that data is returned from the query), rendering (the display), and logging (recording who has accessed it).
- Verify system robustness for expected request volume loads.
- User Acceptance Testing – run the process from end-to-end.

} Perform separately to test that the query is successfully received

Conversion & Go Live

- Create awareness and training curriculum & associated materials for impacted individuals.
- Push the new code to production and launch the new workflows.
- Provide support mechanisms (onsite, fact sheets, telephone number) to impacted individuals.

Support & Maintenance

To increase the likelihood of successful implementation and sustainability, process performance and satisfaction should be monitored and evaluated. Make changes accordingly.



4. Training and Implementation

Addressing how your organization and its individuals operationalize this new connection in their clinical workflows is a vital part of the project plan.

1 Determine the Pace and Style of Implementation

- **Big Bang:** entire group of impacted people implement the new process at the same time (within a defined timeframe):
 - ▶ **Pros** – potentially faster adoption rate and generally a consistent level of understanding can be achieved depending upon the support resources.
 - **Cons** – may require significantly more onsite resources (people and materials) to support all users at Go Live, especially across multiple locations and shifts.
- **Location by Location:** entire group of impacted people by each location implement the new process at the same time (within a defined timeframe):
 - ▶ **Pros** – more consistent level of understanding at each location; requires less onsite resources (people and materials) to support users at Go Live; ability to benefit from lessons learned from one location to the next.
 - **Cons** – adoption rate depends upon the number of locations across the entire implementation timeline.
- **Organic (Individual by Individual):** impacted individuals learn about and adopt the new workflows at their own individual rates:
 - ▶ **Pros** – requires the least amount of onsite resources (people and materials).
 - **Cons** – adoption rate is dependent upon individual initiative; higher likelihood of inconsistency of understanding and use as clinical decision support across the entire organization.

2 Assess Impact to Other Related Clinical Workflows

- ▶ Evaluate other clinical and non-EHR system workflows to determine if any are impacted by the change, e.g. preparing for increased physician registration and server demand for accessing the HIE to request PDMP data.
- ▶ Determine if there are new clinical protocols or treatment opportunities resulting from now readily having patient prescription drug information, e.g. routinely accessing the PDMP data in the ER for particular patient complaints.
- ▶ Prepare for the future of potentially new treatment pathways, e.g. *How do we proceed after saying “No” to a controlled substance request?*; input to new decision-support opportunities.

3 Determine Engagement: Communication and Training Strategies

- **Communication – options to create awareness and provide information:**
 - Email announcement with instructions to access the new system features.
 - Distribute FAQ or Tip Sheet summarizing the salient features of the new system functionality and workflows.
 - Send EHR system notification reminders.
 - Hold lunchtime meetings to describe the new system functionality and workflows.
- **Training – options to solidify understanding of the new system features and workflows:**
 - Support staff onsite for a defined period of time to demonstrate the new changes.
 - Onsite physician champions who mentor their staff through the new changes.



5. Evaluation and Optimization

Collecting data and performing an evaluation of the impact of having patient prescription drug information within the clinical workflows supports gauging the success of implementation. It also provides an opportunity to make informed changes in the process, and enables a foundation for evidence based medicine and critical decision support.

Technical Impact - Availability

Connection to the PDMP: Technical ease with which patients' PDMP data is presented to physicians and providers:

- Pull – the physician/provider requests the data.
- Push – the data is automatically presented to the physician/provider.

Measurement:

1. System – how many queries are occurring for prescription drug data from the health care organization to the PDMP?

Clinical Impact - Utilization

Care Delivery: Positive outcomes to patient care are achieved.

Measurements:

1. System – what has happened to controlled substance prescriptions (increased, decreased, or both)?
2. Operational – how has having this data impacted the patient care process; is having this data providing decision-support to the care process?

Usability - Accessibility

Ease of Use: Easier and more efficient ways to access prescription drug data:

- Time and effort required to access.
- Easily consumable (format – how the data is organized; amount of data; usefulness - type of information).

Workflow Fit: Natural integration into the current clinical workflow (patient context):

- Placement of accessing the data is in the right place in the workflow.

Adoption: Clinicians are using the new technical feature for accessing the patient's prescription drug data.

Measurements:

1. System – are the physicians and providers using the new system feature in the EHR to access the patient's prescription drug data?
2. Survey – are the physicians and providers satisfied with how and where the patient's prescription drug data is accessed?

Optimization: Opportunities for improvement are identified to increase the usefulness and timely access of patients' prescription drug data.

Measurement:

1. Survey – mechanism to generate improvement ideas and suggestions.



Resources

Open Sourced Tools and Resources

Open Sourced PDMP Reference Implementation

- PDMP Simulator - <https://github.com/project-pdmp/spike>
- EHR Module for OpenMRS - <https://github.com/project-pdmp/openmrs-module-pdmp>

Project Management software - <http://sourceforge.net/projects/openproj/>

S&I PDMP project wiki page:

<http://wiki.siframework.org/Prescription+Drug+Monitoring+Program+Initiative>

PDMPConnect at www.healthIT.gov/PDMP/PDMPConnect

Videos

- Indiana Pilot
- Oklahoma Pilot

Pilot Summary Papers FY12

- Six Pilot Studies and Their Impact
- Integrating an ED with a PDMP (*Indiana Pilot*)
- Integrating E-Prescribing with a PDMP (*Michigan Pilot*)
- Linking Opioid Treatment to a PDMP (*Washington Pilot*)
- Linking Indian Health Services to a PDMP (*North Dakota Pilot*)
- Physician EHR Integration with a PDMP (*Ohio Pilot*)
- Sending Direct At-Risk-Patient Alerts (*Indiana Direct Pilot*)

Pilot Summary Papers FY13 (coming soon)

PDMP Workgroup Paper FY12

For questions, email contact is PDMPConnect@hhs.gov

Prescription Drug Monitoring Program Organizations

Alliance of States with Prescription Monitoring Programs

www.pmpalliance.org

Brandeis University PDMP Training and Technical Assistance Center

www.pdmpassist.org

National Alliance for Model State Drug Laws (NAMSDL)

www.namsdl.org

National Association of State Controlled Substances Authorities (NASCSA)

www.nascsa.org