

Ohio Automated Rx Reporting System



Ohio PDMP AWARE

User Support Manual

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1 What Is a Requestor?

A requestor is a PMP AWAR_xE account type that is typically used to review a patient's prescription history. A requestor's primary task within the application is to determine if a patient should be given or dispensed a prescription based on their prescription history. Requestors are the strongest line of defense to prevent prescription drug abuse. Physicians and pharmacists are the most common type of requestor, however, there are a myriad of roles that can be classified as a requestor, including those of Law Enforcement. A complete list of available roles that fall into the requestor category are as follows:

Healthcare Professionals

- Dentist
- Nurse Practitioner / Clinical Nurse Specialist
- Optometrist
- Out of State Pharmacist
- Pharmacist
- Pharmacist's Delegate -Unlicensed
- Physician (MD, DO)
- Physician Assistant
- Podiatrist (DPM)
- Prescriber Delegate Licensed
- Prescriber Delegate Unlicensed
- Prescriber without DEA
- Veterinarian

Agency Administration

- Agency Admin
- Drug Court Delegate
- Drug Court Judge
- Drug Court Supervisor

Law Enforcement

- Corrections
- Probation

Other

- Benefit Plan Manager
- Board of Pharmacy Investigator
- State Medicaid Program
- Workers' Compensation

2 Registration

PMP AWAR_xE requires that every individual register as a separate user, using their email address as their username within the system. A user can register as a delegate, a role which is designed to allow the user to generate reports on the behalf of another, current user. An example of a delegate role would be a nurse at a small doctor's office. The nurse would act as a delegate to the physician to create Patient Rx reports for the patients that the physician would be helping that day. All queries run by the delegate will be attributed to the prescriber for whom they run the report.

Please note that if you had an account with the previous system, you may already have an account in PMP AWAR_xE. Please attempt to access your account by following the <u>Reset Password</u> instructions located in this guide before attempting to create a new account. Please utilize the email address associated with your previous account.

The registration process is comprised of three screens: the account settings screen, the role selection screen, and the demographics screen. All three screens must be filled out before the user can successfully submit their registration for processing.

Requestor roles may also require the upload of a copy of a current government-issued photo ID, such as a Driver's License or a Passport, or notarized validation documents. If required, this documentation must be submitted prior to the user account being approved. The user can submit digital copies through PMP AWAR_xE after completing the registration screens.

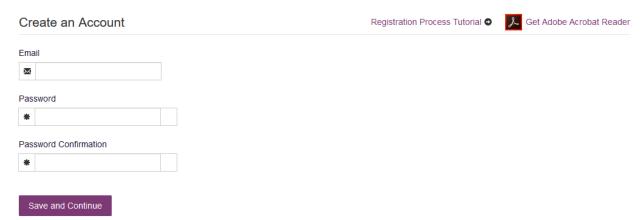
2.1 Registration Process

- 1. To request a new account in PMP AWAR_XE, the user must first load the login screen for the application. The login screen is located at https://ohio.pmpaware.net/login
- 2. Once at the login screen, the user must click the "Create an Account" option to begin the process.



- 3. The next screen requires the user to enter their current, valid email address and select a password. The password must be entered a second time for validation.
 - a. The password must contain at least 8 characters, including 1 capital letter and 1 special character (such as !,@,#,\$)
 - b. A Registration process tutorial is located to the top right of the screen.

Registration Process



- 4. After the email and desired password have been entered, the user must click the "Save and Continue" button
- 5. The second step is the role selection screen. The user can expand the role categories to select the role that fits their profession.

a. If you do not see an applicable role for your profession, the State Administrator has not configured a role of that type and potentially may not allow users in that profession access to PMP AWAR_xE.

Registration Process

Select your User Roles

- Healthcare Professional
- **+** Law Enforcement
- **Other**

Save and Continue

Registration Process

Select your User Roles

Healthcare Professional
☐ Nurse Practitioner / Clinical Nurse Specialist
☐ Midwife with Prescriptive Authority
☐ Physician Assistant
☐ Podiatrist (DPM)
□ Optometrist
☐ Veterinarian
☐ Medical Intern
☐ Medical Resident
☐ Military Prescriber
☐ Pharmacy Technician
☐ Prescriber Delegate - Unlicensed
☐ Pharmacist in Charge
☐ Pharmacist
☐ Physician (MD, DO)
Dentist
☐ Dispensing Physician
☐ Prescriber without DEA
☐ Pharmacist's Delegate - Unlicensed
Law Enforcement
Other
Save and Continue

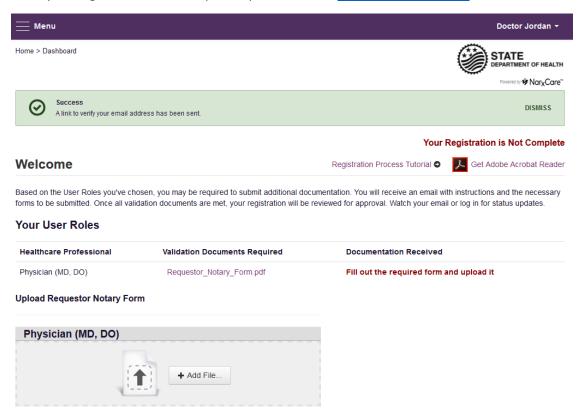
- 6. After the role has been selected, the user must click the "Save and Continue" button.
- 7. The final screen is the demographics screen. Here the user must enter their name, date of birth, employer information, and other information as configured by the State Administrator.
 - a. Required fields are marked with a red asterisk.
 - b. Please enter all active DEA numbers, if applicable.

Registration Process

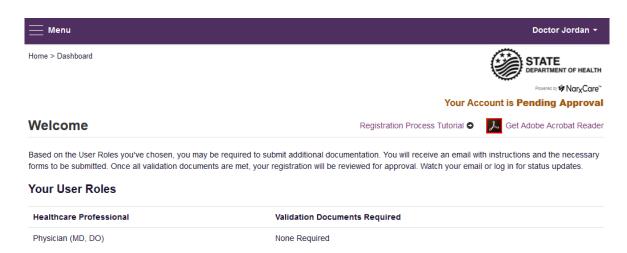
Create an Account	Registration Process	Tutorial ⊙
All fields with an asterisk (*) are required.		
Personal		
DEA Number(s) *	First Name *	
+ Add DEA Numbers Added	Middle Name	
	Widdle Name	
	Last Name *	
	Date of Birth *	
	Primary Contact Phone	
Employer		
DEA Number(s)	Name *	
+ Add		
DEA Numbers Added	Address *	
National Provider ID + Add	Address Line 2	
National Provider IDs Added		
	City *	
	State *	
	v.	
	Zip Code *	
	Phone *	
	Fax	
		Submit Your Registration

8. After all information has been entered into the form, the user must click the "Submit Your Registration" button to complete the process.

- 9. The user will then be taken to a landing page notifying them that their account is either pending approval, or incomplete and requires further action.
 - a. Users will also be notified that a link to verify their email address has been sent.
 - b. If your registration is "Incomplete," please see the Validation Documents section.



c. If your account is "Pending Approval," it is complete and is awaiting approval by the State Administrator.



2.2 Registering as a Delegate

Registering as a delegate is virtually identical to registering as any of the other healthcare professional roles. The user would select one of the delegate roles (e.g. *Prescriber Delegate – Unlicensed* or *Pharmacist Delegate – Unlicensed*) and enter any required information on the demographics screen.

The final section of the demographics screen requires the delegate to enter their supervisor's email address. The supervisor must already have a registered account with the PMP AWAR_XE. Delegates may enter more than one supervisor. When adding a supervisor, a delegate will want to ensure that they enter the supervisor's email address correctly and that they are using a valid email address.

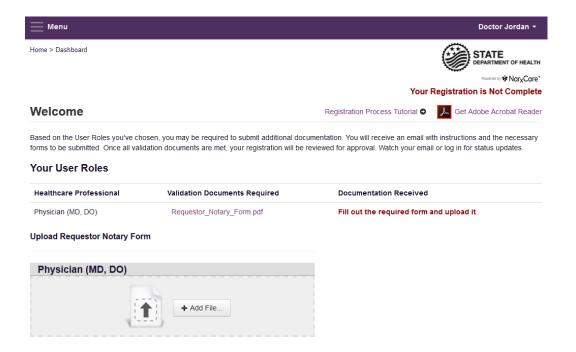
Delegate						
I am a delegate for the following people *						
Email						
supervisor@email.com	Add					

2.3 Email Verification

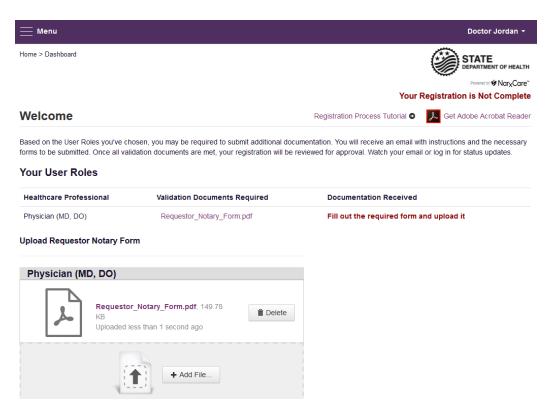
- 1. After the user submits their registration, PMP AWAR_XE sends an email to the supplied email address asking for verification of an active email address.
- 2. The user must click the link within the email to verify their email address.
 - a. The link contained within the email is only valid for 20 minutes. In the event the time has expired, clicking the link will result in a new email verification notification being sent to the user. The user must click on the link in the new email to verify their email address.
- 3. The user is taken to a screen displaying a message that their email address has been validated.

2.4 Validation Documents

- 1. If a State Administrator requires further validation for a role the user registered for, the user will receive an email with instructions the State Administrator has provided and the necessary forms to fill out and complete.
- 2. The user completes the required form(s) in accordance with the instructions.
- 3. The user must then submit the form(s) to the PMP AWAR_XE system by two methods (as configured by the State Administrator)
 - a. The user logs into the PMP AWAR_xE using their email address and password used to request an account.
 - i. The user is presented with a file upload screen.



ii. The user clicks "add file" and selects the file for upload. No further action is needed. The user will receive an email notifying them that an update has been made to their account. Once the validation document(s) are uploaded, no further action is needed by the user.



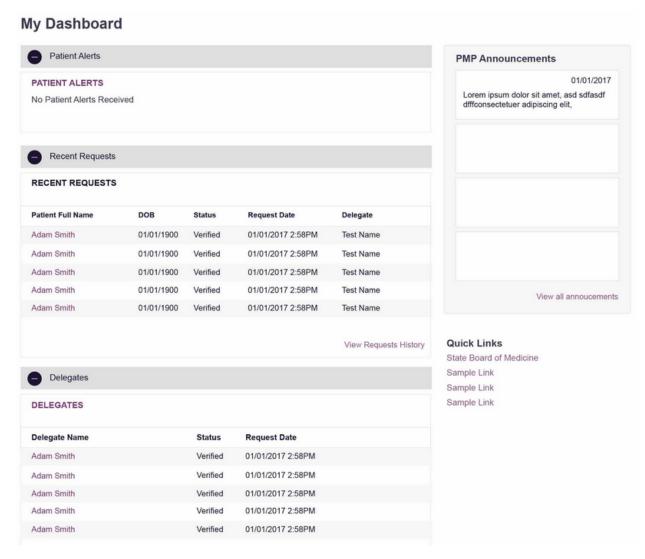
b. The user mails the forms to the state office.

2.5 Account Approved

- 1. After the State Administrator has determined that all requirements have been met for the user account, the account can be approved.
- 2. The user receives an email stating that their account has been approved and is now active.
- 3. The user can then log into PMP AWAR_xE using the email address and password supplied during the account creation process. If the user no longer has the password, it can be reset by navigating to: https://ohio.pmpaware.net/identity/forgot_password

3 Requestor Dashboard

The Requestor Dashboard is the first screen users see once logged in with an approved account. It provides a quick summary of pertinent items within PMP AWAR_xE, including State Administrator announcements, the user's recent patient searches, patient alerts, and their delegate's/supervisor's status. The Dashboard can be accessed at any time by clicking **Menu** > **Dashboard** (Under "**Home**").



3.1 Patient Alerts

This section shows the most recent patient alerts. New alerts, ones that have not been viewed, are **bold** and have the word "NEW" next to them. Clicking the PDF Icon will download the letter associated with the alert. Clicking the patient's name will take the user immediately to the report normally found under RxSearch > Patient Request. NOTE: This section is user role dependent, meaning that certain roles will be unable to view this section.

3.2 Recent Requests

This section shows the last few patient searches that were performed by the user or by one of the user's delegates. Clicking the patient name will take the user to the patient report. **NOTE:** The report seen here is a historical report. It is the data that was viewed when the report was initially run. For instructions on performing patient Rx history searches, see section Creating a Patient Rx Request.

3.3 Delegates/Supervisors

This section shows the user's delegates or supervisors depending on the user's role. A supervisor can quickly change a delegate's status from the dashboard by clicking the delegate's name. They will be taken to the Delegate Management screen where they can approve, reject, or remove a delegate from their profile. For additional information regarding delegate management, see the Delegate Management section.

3.4 Announcements and Quick Links

State Administrators can configure Announcements to be displayed to users in this section. The quick view on the right shows only the first few lines of text, but clicking on the **Announcements** button will display the full announcement text. The announcements can be configured as role specific meaning that a user whose role is physician can have an announcement whereas delegate user may not have the same announcement viewable under their profile.

State Administrators can also configure Quick Links to webpages outside of PMP AWAR_xE.

4 RxSearch

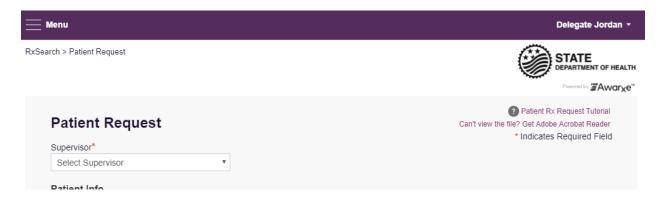


Depending on the settings the State Administrator has enabled for the portal in general and the specific roles types, there may be different options available. The screenshot above and the descriptions that follow in this section are all inclusive. If an option is not available, then it has not been enabled by the State Administrator.

4.1 Creating a Patient Request

The Patient Request is a report that displays the previous prescription drug activity for a specific patient.

- 1. A user must log into PMP AWAR_xE and navigate to **Menu > RxSearch > Patient Request**. If needed, there is a tutorial located toward the top right of the screen.
- 2. If the user is a delegate, then they must select a supervisor from the dropdown at the top of the screen. If they have no available supervisors, then they must contact their supervisor to approve their account, add a supervisor under My Profile if available for editing (see My Profile for further instructions), or contact the State Administrator.



3. The screen displays search fields to lookup a patient. All fields marked with a red asterisk (*) are required. At a minimum, the user must enter a first and last name and date of birth for the patient. Start and end dates for prescriptions are also required.

Patient Requ	ıest			Patient Rx Request Tutoria Can't view the fille? Get Adobe Acrobat Reade
Patient Info				* Indicates Required Field
r attent into				
First Name*		Last Name*		
Partial Spelling		Partial Spelling		
Date of Birth*				
MM/DD/YYYY				
Phone Number				
Prescription Fill D	atos			
Prescription Fill Da Prescription dates have		st 3 years.		
From*	To*			
06/27/2016	06/27/2	2017		
Patient Location (C				
	an be improved	by including the addres	SS.	
Street Address				
		_		
City	State	zt State Z	ip	
	00.00	a otato		
PMP Interconnect	Search (Optio	onal)		
To search in other state	es as well as you	ur home state for patien	t information, select	the states you wish to include in your search.
Select All				
A Alabama	Alaska	Arizona		
c California	Colorado	Connecticut		
D Delaware				
_				
G Georgia				
H Hawaii				
I Idaho	Illinois	Indiana	lowa	
K Kansas	Kentucky			
L Louisiana				
M Maine	Maryland	Massachusetts	Michigan	Minnesota Mississippi
N Nebraska	Nevada	New Hampshire	New Jersey	New Mexico New York
North Carolina	North Dake	ota		
Saarah				
Search				

- a. Partial Spelling By clicking the *Partial Spelling* boxes for either first or last name, users have the option to use only part of a patient's name to perform a search. This can be very helpful when searching hyphenated names or names that are often abbreviated such as "Will" vs. "William".
- b. At least three letters must be included in order to employ Partial Spelling.
- 4. If the user requires information from other states, the user can select the desired states from the list of available PMPi states.
 - a. If a state is not available within the PMPi list, then data sharing is not currently available with that state.
 - b. **NOTE:** Only an exact name match will return results from interstate searches. There will not be a multiple patient list displayed for patients who do not have an exact name match.
- 5. The user clicks the search button to begin the search.
- 6. When a single patient has been identified, results are returned to the screen.
- 7. If the search could not determine a single patient match, the user will receive a message warning of multiple patient matches. The patient records that correspond with the patient can all be selected for inclusion in the report see the Multiple Patients Identified and Partial Search Results sections for more information.

4.1.1 Viewing the Patient Rx Request

1. The Patient Rx Request report screen is comprised of four main sections: Patient Information, Prescriptions, Prescribers, and Dispensers.







Patient Report Refine Search

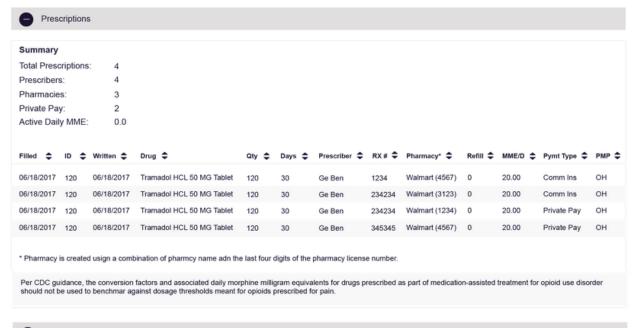
Report Preparted: 07/06/2017 07:15PM Date Range: 07/12/2016 - 07/12/2017

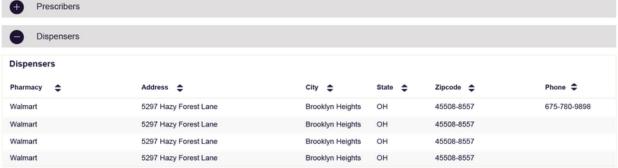










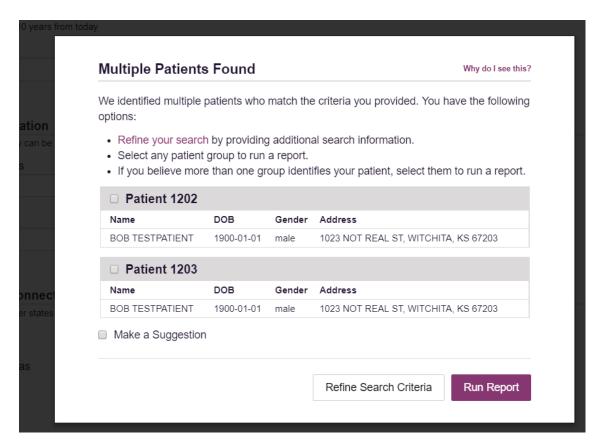


2. At the top of the request, the report displays the date the request was run and the date range used to create the request.

- 3. If configured for the account type by the State Administrator, buttons may also be present that will allow the user to save the report as a PDF document or to save the report as a CSV data file.
- 4. The Patient Information section displays the search criteria used to search for the patient. It will also display all known patient names, birthdates, and addresses that have been matched to the patient the user searched.
 - a. The table can represent instances of a patient with multiple addresses, misspellings of names, etc.
 - b. The table also lists an ID number that will match a patient's address information to a prescription from the prescription table.
- 5. The Prescriptions table lists information related to each prescription issued to the patient within the search period entered.
 - a. The Patient ID column is used to provide a link between a specific prescription and the patient name/location information.
- 6. The Prescribers table displays the information for all prescribers who issued a prescription to the patient within the search period used.
- 7. The Dispensers table displays the information for all Dispensers who filled a prescription to the patient within the search period used.
- 8. Each section is collapsible. Users can click on the plus signs next to each section to expand or collapse each section.
- 9. Each section's tables can be resized to show more or less records. Users can click and drag the bottom of the table with their mouse to resize. A minimum of 2 rows are required to be displayed.
- 10. Columns in each section can be sorted. Clicking on a column header will allow the results to be sorted in ascending or descending order based on the column selected.
 - a. Column sorting is saved when exporting the request.

4.1.2 Multiple Patients Identified

- 1. When submitting a Patient Rx Request, if the entered search criteria cannot identify a single patient, the user receives a message that multiple patients have been identified.
- 2. The user can refine their search criteria and rerun the report or select one or more of the patient groups identified and run the report.



4.1.3 Partial Search Results

- 1. When submitting a Patient Rx Request using partial names, if the entered search criteria cannot identify a single patient record, the user receives a message that multiple patients have been identified.
- 2. The user can refine their search criteria and rerun the report or select one or more of the patient records identified and run the report.



4.1.4 No Results Found

- 1. If a user searches for a patient and no matching patient can be found, a message is displayed on the screen informing the user that the patient could not be found.
- 2. If a match for the patient is found, but there are no prescriptions that match the date range entered, the user will receive the below message.

- 3. The user can modify their search information and resubmit their request.
 - a. The user should verify all information entered on the request (ex. Incorrect birthdate, name misspelling, etc.)
 - b. The user can attempt a partial search if a partial search was not originally performed and is available for selection
 - c. The user can enter additional demographic information like a zip code to perform a fuzzy search.



4.2 Request History

- To view a Patient Rx Request that was previously created, navigate to Menu > RxSearch > Requests History.
- 2. A list of Patient Rx Requests made in the previous 30 days are displayed.
- 3. The user can only view Patient Rx Requests they or their delegate(s) have created.
- 4. The user can select a previous request to view the details of the request in a detail card at the bottom of the screen.
 - a. Search criteria is displayed
 - b. PMPi states used during the search are displayed
 - c. If the user's requests require approval and the request is pending or was denied, the reason is displayed.
- 5. Click the View button to open the results of that request
 - a. Results of previous requests are not updated with new information. If a user requires updated information for their request, they must generate a new request for the patient. Generating a new Rx Request from a previous request can be quickly be done by clicking the "Refresh" button next to the "View" button. This will take the user back to Patient Request screen with all previously used search parameters already populated.

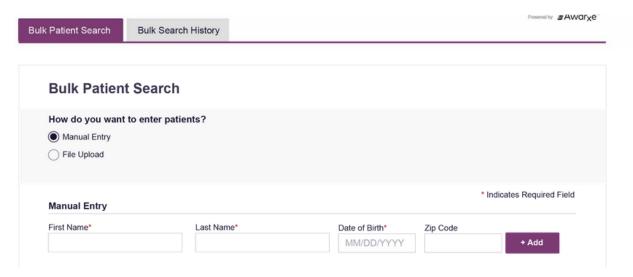
4.3 Bulk Patient Search

The Bulk Patient Search is similar to the normal Patient Request (search). It however allows the entry of multiple patients at once rather that one at a time. Patient names are either entered manually or via an uploaded CSV file. To access Bulk Patient Search, navigate to **Menu > RxSearch > Bulk Patient Search.**

The screen is comprised of two tabs, the Bulk Patient Screen which is the landing page and is where the user can start a new search, and the Bulk Search History tab, used for reviewing the results of a request or viewing previous request results.

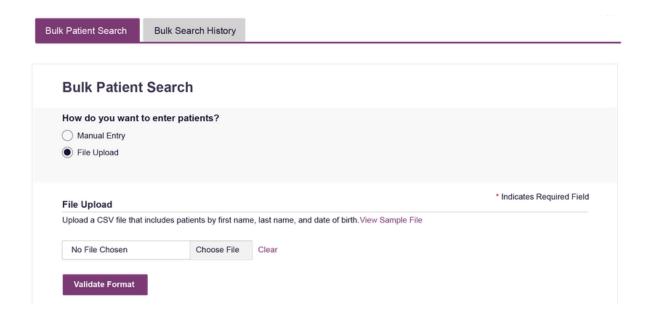
Manual Entry

- 1. Enter First Name, Last Name, DOB (and any other state required fields)
- 2. Click the Add button after each entry.



File Upload

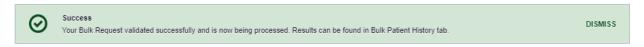
- 1. Click the radio button for "File Upload"
- 2. Download the Sample CSV by clicking "View Sample File"
- 3. Fill out the required fields and upload the file.
- 4. Click Validate Format to download a validation report and ensure all records were entered correctly. Null values in the Errors columns indicate acceptable data. If a search is submitted with an invalid file, this will result in a validation error for the search. The file must be corrected and the search resubmitted with the corrected file.



Once the user has entered patients for their search either manually or via file upload, the user will then:

- 1. Create a Group Name for the search. Group name is required. If group name is not selected, the request will result in a validation error for the search.
- 2. Select additional states for your search if necessary/available.
- 3. Click Search.
 - a. An acknowledgment may be available, and users may be required to acknowledge they have read it if configured by the State Administrator.

A status message will appear.



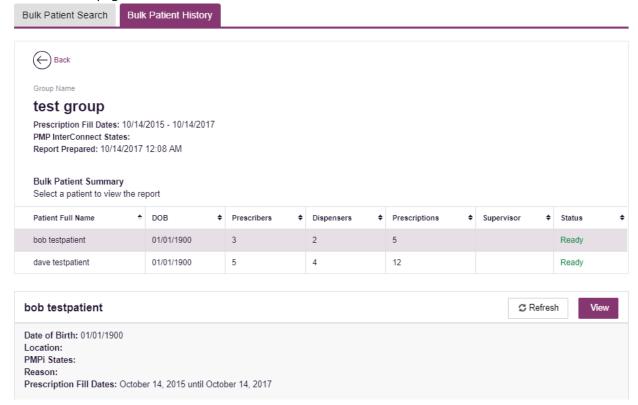
4. To obtain the results of the search, click the Bulk Search History tab to the right of the Bulk Patient Search tab.



d. The Bulk Search History tab will display previous bulk searches. This screen will indicate whether your search results are still processing with a total number of searches still to

be processed. It will provide a total count of patients in your search in the "Number of patients" column. It will indicate a count of patient records it could not find in the "Incomplete" column. It will indicate a count of patent search results available in the "Ready" column.

- 5. Click the Bulk Search Name (which is a hyperlink) to see the results of the search.
- 6. Click a patient name within the search results. Details of the patient search will appear at the bottom of the page.

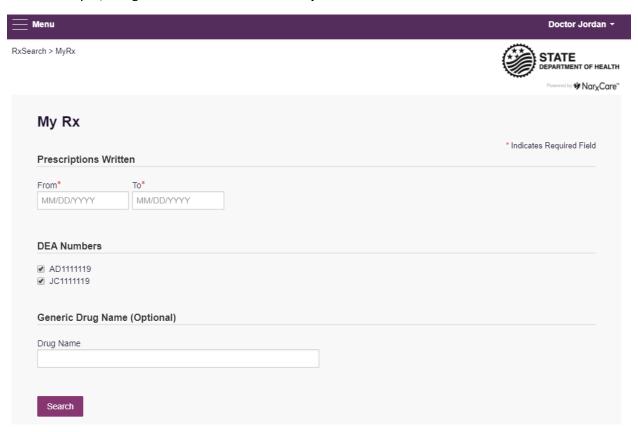


7. Click *View* to see the actual Patient Report, or Click Refresh if you are reviewing a previous report and wish to run a current report. For more information on the report results screen, see the <u>Viewing the Patient Rx Request</u> section.

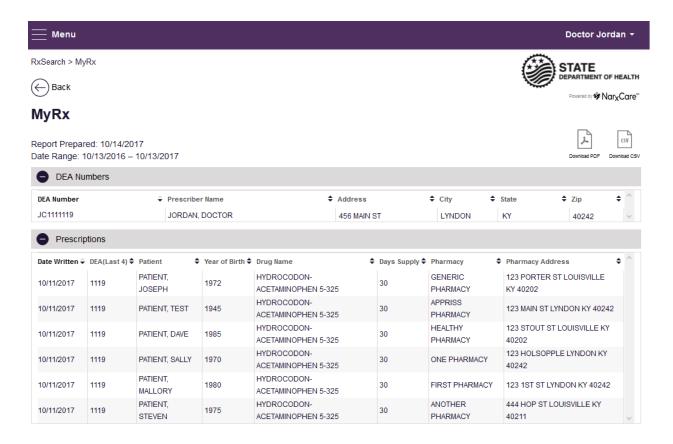
4.4 MyRx

MyRx gives users that have a DEA number associated with their account the ability to run a self-report to see what prescriptions have been filled where they were listed as the prescriber. **NOTE:** This section is only visible if the user has a DEA number associated with their User Profile.

To access MyRx, navigate to Menu > RxSearch > MyRx.



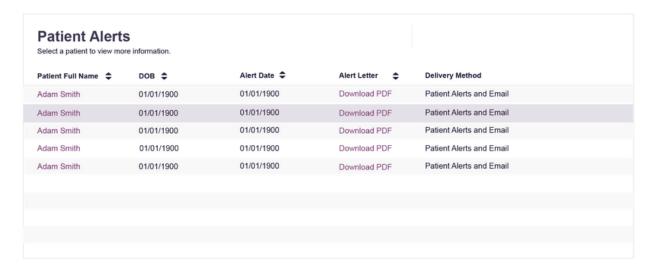
- 1. Enter the chosen date range for the search.
- 2. Click the DEA number(s) you want to run a report on.
- 3. Enter a generic drug name if needed. Click Search.
- 4. The system will display a report of prescriptions written by the prescriber within the requested date range. The report is available for export via .pdf or .csv if configured by the State Administrator.



4.5 Patient Alerts

To access Patient Alerts, navigate to Menu > RxSearch > Patient Alerts.

This section shows the most recent patient alerts. New alerts, ones that have not been viewed, are **bold** and have the word "NEW" next to them. Clicking the PDF Icon will download the letter associated with the alert. Clicking the patient's name will take the user immediately to the report normally found under Menu > RxSearch > Patient Request. NOTE: This section is user role dependent, meaning that certain roles will be unable to view this section.



5 User Profile Management

The User Profile section allows users to view and edit certain aspects of their PMP AWAR_xE account.

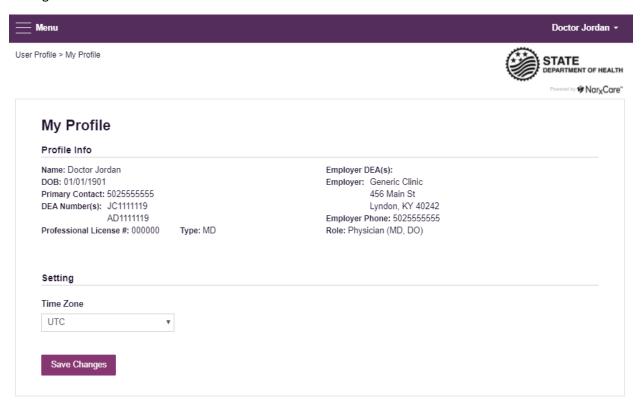
To Access the User Profile, navigate to Menu > User Profile > My Profile.

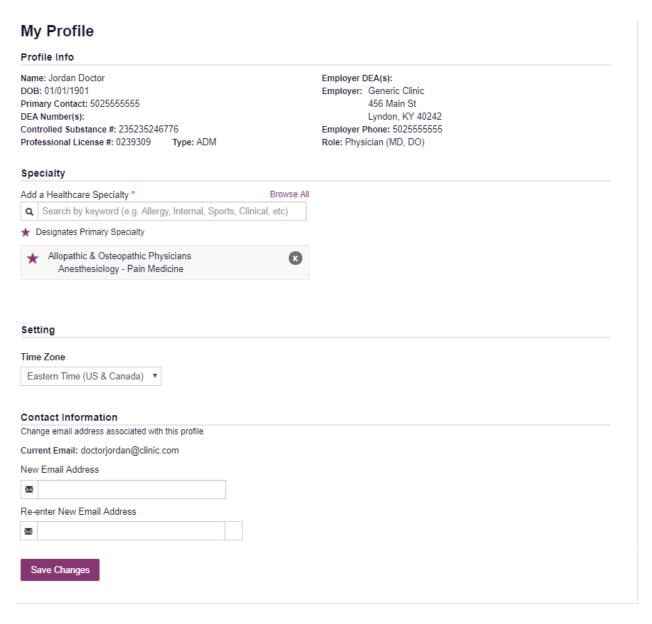
5.1 My Profile

The My Profile section allows the user to view their account demographics such as role, license numbers, employer details, etc.

Users may have the ability to update their email address, Healthcare Specialty, time zone, and supervisor(s) (if a delegate), if configured by the State Administrator.

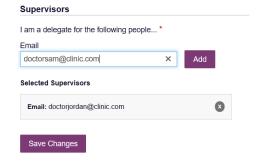
Updating personal or employer information (including DEA/NPI/NCPDP numbers) must be requested through the State Administrator.





To update your account:

1. Adding Supervisors: Delegate users may add additional supervisors to their accounts at the bottom of the screen. The delegate must enter their supervisor's email address and click add. If the delegate needs to remove a supervisor, click the "x" button next to the supervisor. Click "Save Changes." A confirmation message will be displayed.



 Healthcare Specialty: To add or update the Healthcare Specialty, the user may search for their specialty by typing a few characters into the Healthcare Specialty field or by clicking "Browse All" to locate it.

Select the specialty and it will be added to the account. If the user has multiple specialties, the user may designate their primary specialty by clicking the star icon to the left of the specialty. If the user needs to remove a specialty, click the "x" icon to the right of the specialty. Click "Save Changes."



3. Email Address: To update the email address on the account, enter the new email address in the "New Email Address" and "Re-enter Email Address" field. Click "Save changes." Upon saving a confirmation message will be displayed. Please ensure to click the link in the verification email



received to verify the new email address.

5.2 Setting Default PMPi states

PMP AWAR_xE is configured to integrate PMPi to expand search capabilities when researching patient Rx history. Users have the ability to select from a list of approved states and can configure states to be selected by default when performing patient Rx searches.

Default InterConnect PMPs Alabama Alaska California Delaware Florida Kentucky Update Defaults

- 1. The user navigates to Menu > User Profile > Default PMPi States
- 2. A listing of available states is displayed.
- 3. The user checks the boxes next to the states they desire to always be pre-selected when creating a new Patient Rx request.
- 4. The user clicks "Update Defaults" to save their selections.
- 5. When the Patient Rx request screen is opened to create a new request, the selected default states will now automatically be checked to include in the search results.
 - a. Users can de-select default states as they choose. Having default states does not lock the state to always be required in patient searches.

5.2.1 Using PMPi with a Patient Rx Search

- 1. When creating a new Patient Rx request, a list of available PMPi states is listed at the bottom of the screen.
- 2. The user can select as many states as they wish to obtain results from. There is also a "Select All" button present if the user wishes to search all available states.
- 3. PMP AWAR_xE will submit the request for the patient to the PMPi systems of the selected states.
- 4. Results from those states are blended into the final Patient Rx report.
 - a. The report does not separate Rx information from a state by state basis. It incorporates all information from all sources into a single report.
 - b. NOTE: Only an exact name match will return results from interstate searches. There will not be a multiple patient pick list displayed for patients who do not have an exact name match.

5.3 Delegate Management

For supervisors, delegates associated with the user's account are displayed in a table found at **Menu > User Profile > Delegate Management**. From this location, the supervisor can approve or reject new delegates, or remove existing delegates from their account.

5.3.1 Approving and Rejecting Delegates

- 1. When a user registers as a delegate for a supervisor, the supervisor receives an email alerting them that a delegate account is pending their approval.
 - a. If the request is not acted upon, PMP AWAR_xE will send follow up emails advising that action is still required.
- 2. The supervisor logs into the PMP AWAR_xE application (https://STATE.pmpaware.net/login) and navigates to Menu > User Profile > Delegate Management.
- 3. From the Delegate management screen, the supervisor can see all delegates associated with their account. New Delegate(s) are identified with the pending symbol in the Delegate Status column.

	Delegate Management Select a delegate to review details.							
First	Last	Role	Delegate Status	Date Requested				
Jordan	Delegate	Prescriber Delegate - Unlicensed	Pending	10/13/2017				
Sally	Delegate	Prescriber Delegate - Unlicensed	Approved	10/13/2017				

4. The user selects the delegate to view their information in the detail card at the bottom of the screen.

Delegate Management Select a delegate to review details.									
First Last Role	Role			Status	Date Requested				
Jordan Delegate Prescri	Prescriber Delegate - Unlicensed				10/13/2017				
Sally Delegate Prescri	Prescriber Delegate - Unlicensed			i	10/13/2017				
Jordan Delegate Verify Status Reject									
Role: Prescriber Delegate - Unlicensed Phone: 5025555555	Delegate (pending)		1 Supervisor						
Email: delegate@clinic.com (Unverified) Address: 123 Main St Lyndon, KY 40223 Data of Birth 04/01/1000	Drivers license (invalid)		Jordan Doctor (pend doctorjordan@clinic.co						

5. To approve or reject the delegate, the supervisor must click the appropriate button above the delegate's information. The delegate's status will be removed if rejected.

5.3.2 Removing Delegates

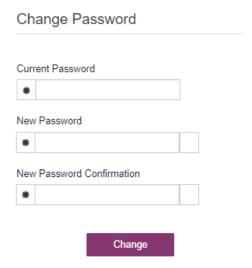
- 1. If a supervisor decides to remove a delegate from their account, the supervisor navigates to Menu > User Profile > Delegate Management.
- 2. The supervisor selects the active delegate from the list displayed.
- 3. The supervisor clicks the "Remove" button in the detail card at the bottom of the screen.
- 4. The delegate will be placed back in pending status. The delegate is not removed from the supervisors list.
 - a. If a supervisor wants to add the user again at a later date, the supervisor can locate the former delegate in their list and select approve to add the delegate to their account again.
 - b. If a supervisor wants to completely remove the delegate from their account, the supervisor can select the former delegate and click the "Reject" button. This will remove them from the supervisor's account.

5.4 Password Management

Password management can be handled within PMP AWAR $_X$ E by the user. The user's password will expire after 90 days. A user can proactively change their password before it expires within the application through their user profile. If a password has expired, or if the user has forgotten the password, they can use "Reset Password" to change their password.

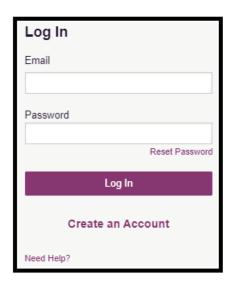
5.4.1 Updating the Current Password

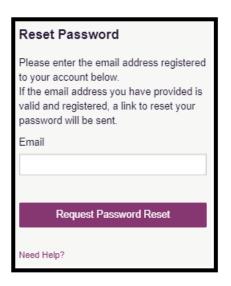
- 1. When a user wants to change their current password, they navigate to their **Menu > User Profile > Password Reset** section.
 - a. This requires the user to know the current password and be logged into PMP AWAR_xE.
- 2. The user must then enter their current password and enter a new password twice.
- 3. The new password will take effect once the user has logged out of the application.



5.4.2 Resetting a Forgotten Password

1. When a user has forgotten their password or their password has expired, the user should click on the "Reset Password" link located on the log in screen.





2. The user must enter the email address they used to register with the application and click "Request Password Reset."



- 3. The user will receive an email containing a link to reset the password as long as the email address was valid and exists on an account.
 - a. The link will only be active for 20 minutes. After the time has expired, the user will need to repeat these steps to generate a new password reset email.

- b. Per our security protocol, PMP AWAR_xE will not confirm the existence of an account. If the user does not receive an email to the email address provided, the below steps should be followed:
 - i. Ensure a valid email address was entered.
 - ii. Check junk, spam, or filtered folders for the message
 - iii. If the email address is a working email address but no email has been received, contact the State Administrators (contact information in Section 7.2, <u>Administrative Assistance</u>) to request a new password or determine what email address is on the account.
 - iv. Whitelist the below email addresses/domains
 - a. The user should add the following email addresses to the email contacts list

Or

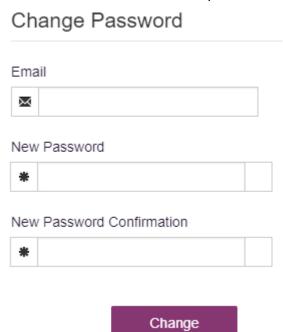
b. The user should contact their IT Support to get the following email addresses/domains added as safe senders:

no-reply-pmpaware@globalnotifications.com

@globalnotifications.com

@amazonses.com

- 4. Once the password reset email is received, the user must click the link in the email to reset their password. The user must enter the new password twice and then save the password.
 - a. The password must contain a capital letter, and a symbol, and must be at least 8 characters. Users cannot reuse any of their last 12 passwords.



6 Data and Rx Management



The Rx Management section, located under the Data section, allows for management of prescriptions within PMP AWAR_xE. In this section, dispenser users can correct dispensation errors, modify inaccuracies on existing prescriptions (ex. incorrect prescriber information), add new prescriptions, and review prescription history for the pharmacy.

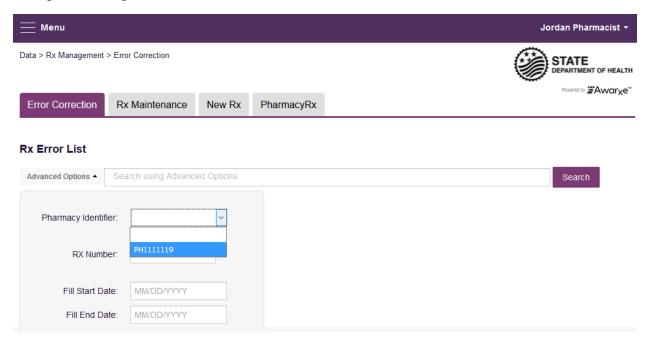
Depending on the settings the State Administrator has enabled for the portal in general and the specific roles types, there may be different options available. The screenshots below and the descriptions that follow in this section are all inclusive. If an option is not available, then it has not been enabled by the State Administrator.

In order to utilize this feature, users must have an Employer Identifier on their account, and must agree that they are responsible for correcting/maintaining prescription information of the employer Identifier for submission to PMP AWAR_xE. This must be done during registration. If the user has already registered and does not have any Pharmacy Identifiers available for selection in the below sections, the user must contact the State Administrator to have the Identifiers added and to agree to the terms of use.

6.1 Frror Correction

Error correction allows for correction of errors for any prescriptions submitted to PMP AWAR_xE that did not pass validation. This is only applicable to prescriptions submitted via sFTP, file upload, or Realtime submission to PMP Clearinghouse. Any prescriptions submitted via Universal Claim Form cannot be submitted to the PMP AWAR_xE if a validation error is encountered, as the error must be cleared prior to submission.

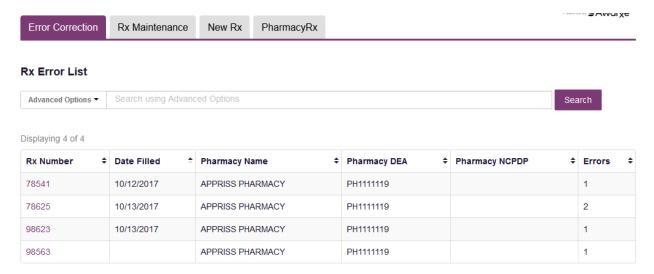
To begin correcting errors:



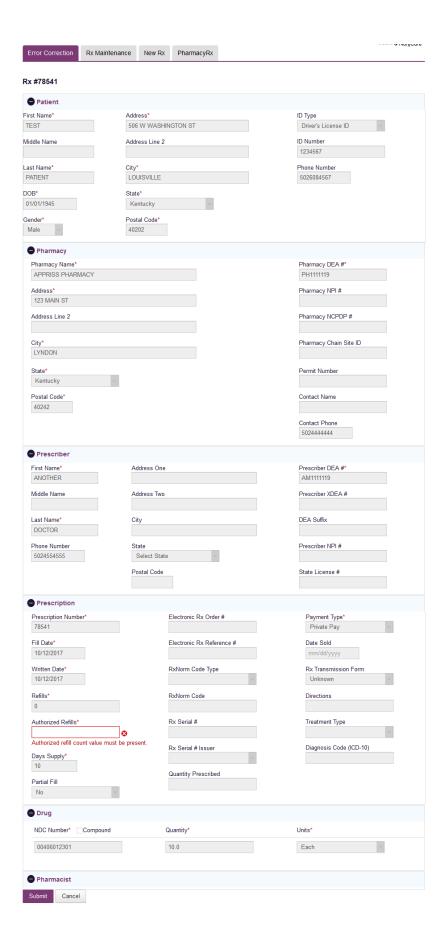
- 1. Navigate to Menu > Rx Management and click the Error Correction tab
- 2. Click "Advanced options" and select a Pharmacy Identifier from the list
 - i) If there are no identifiers in the list, please contact the State Administrator
- 3. Enter a prescription number and/or date range if necessary
- 4. Click "Search"

The user will either presented with a message "No errors found for your selected employer identifiers," which means there are no prescriptions needing to be corrected, or the user will be presented with a list of prescriptions with errors needing correction.

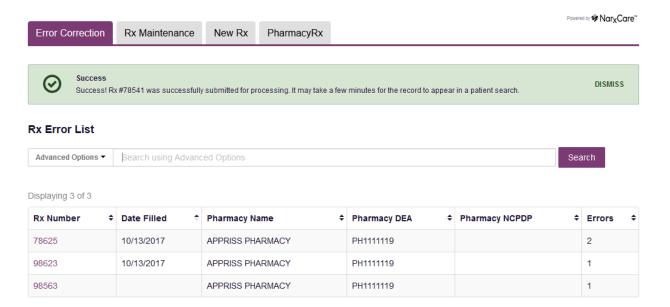
If configured by the administrator, the user will be able to export this list into a .pdf or .csv file by clicking either of the icons next to the "Search" button.



- 5. To correct the error, click on the prescription number.
- 6. The user will be presented with the error correction screen, which will display all fields of the prescription. However, the user may only edit fields containing errors.
 - i) Individual sections (Patient, Pharmacy, Prescriber, Prescription, Drug, Pharmacist, etc.) can be hidden or expanded by clicking the "+" icon to the left of the section name.
 - ii) A count of errors will be listed at the top of the screen, and the error itself will be indicated in red with an error message on the form.



- 7. Type in the correct value for the field(s) in error. Once the field(s) are complete, the error(s) will clear.
- 8. Scroll down to the bottom of the form and click "Submit."
- 9. You will receive a successful notification and be returned to the error correction list, with prescription cleared from the list.



6.2 Rx Maintenance

Rx Maintenance allows the user to correct inaccurate information on a prescription, for example, incorrect patient or prescriber information. It also allows users to void a prescription if necessary.

6.2.1 Correcting Prescriptions

To correct inaccurate information on a prescription:

- 1. Navigate to Menu > Rx Management > and click the Rx Maintenance tab
- 2. Enter the search criteria and click search.
 - i) Select the appropriate Pharmacy Identifier
 - ii) Ensure the fill date range is correct. The default is a month prior to the current date.
 - iii) The user can enter only fill dates and select the Pharmacy Identifier
 - iv) The user can also enter a prescription number or prescriber last name to narrow their search

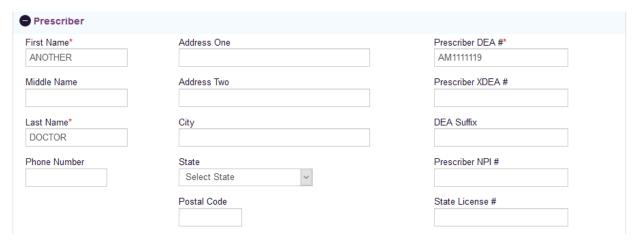
Rx Search

*Requires at least one Pharmacy Identifier and Rx Fill Dates	
Prescriptions Number	Prescriptions Fill Dates
Rx Number	From *
78541	09/16/2017
	To *
Prescriber	10/16/2017
Last Name	
Pharmacy Identifiers	
☑ PH1111119	
Q Search Clear	

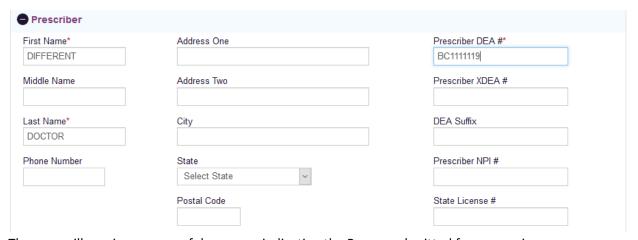
3. The user will then be presented with the results of their search, which will display the prescription number as well as filled and written dates, the patient's name, and prescriber and pharmacy information. Click the prescription number to proceed.



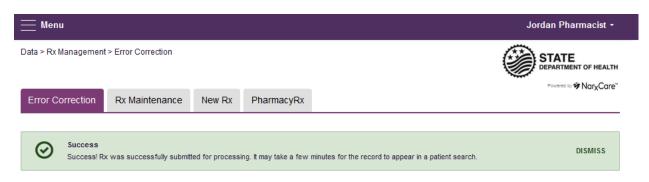
4. Navigate to the appropriate section of the form to make the correction. For this example we will be navigating to the Prescriber section to correct the prescriber information.



5. Make the correction, then scroll down to the bottom of the form and click "Submit"



6. The user will receive a successful message indicating the Rx was submitted for processing.



6.2.2 Voiding Prescriptions

To void a prescription:

- 1. Follow the above steps in section 6.2.1, <u>Correcting Prescriptions</u>, to locate the prescription.
- 2. Scroll down to the bottom of the form and click "Void"



- 3. The user will need to confirm they wish to void the dispensation, select a void reason, and click submit.
 - i) Voids cannot be undone, in the event the prescription should not have been voided, it will need to be resubmitted.



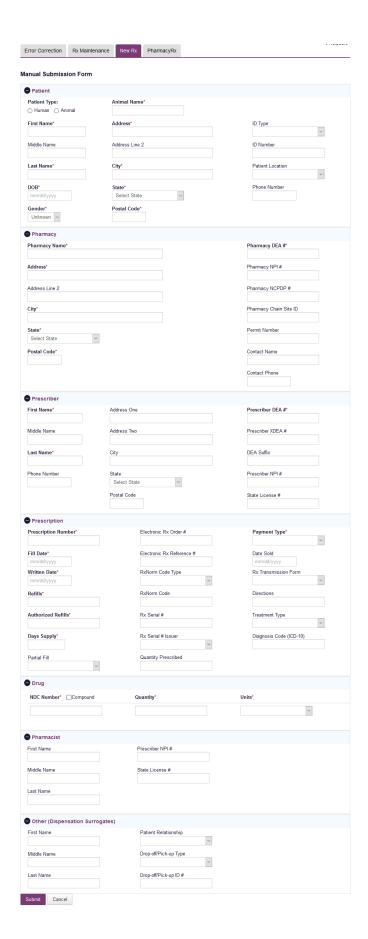
6.3 New Rx

New Rx is a manual submission form to submit a new prescription. Required fields are indicated in bold and with a red asterisk to their right.

The form cannot be saved and must be completed near the time of creation to avoid loss of information. Dispensations cannot be submitted with errors, any errors or missing values will need to be corrected before the dispensation can be submitted.

If a required value or required values are left blank and the user attempts to submit the form, the form will indicate the errors in red and provide an error message. All required values must be entered and valid in order to submit the form.

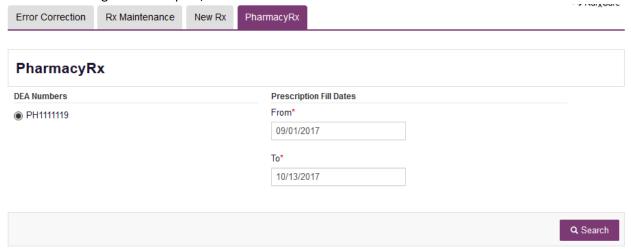
The form will not retain previously submitted values, such as pharmacy name, pharmacy address, or pharmacy identifier, however depending on your browser you may be able to retain this information for future use.



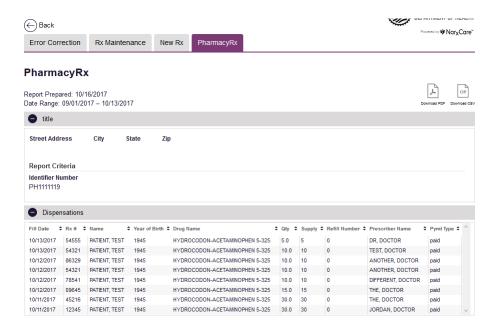
6.4 PharmacyRx

PharmacyRx allows users at the pharmacy to access a list of previously submitted prescriptions dispensed by the pharmacy.

- 1. Navigate to Menu > Rx Management and click the PharmacyRx tab
- 2. Select the desired Pharmacy Identifier
- 3. Enter a date range for the report, and click "Search"



- 4. The user will receive a report on dispensations filled by the pharmacy within the requested time frame. The report will contain a section with the pharmacy's information as well as a Dispensations table.
 - i) The Dispensations table can be filtered by any of its columns.
 - ii) If the user needs to change the date range of the report, they can do so by clicking the "Back" button at the top of the report.
- 5. If configured by the State Administrator, the user will be able to export the data into a .pdf or .csv file by clicking the icons at the top of the report.



7 Assistance and Support

7.1 Technical Assistance

If you need additional help with any of the procedures outlined in this guide, you can contact Appriss at:

1-844-464-4767

or

Create a support request using the following URL: https://apprisspmp.zendesk.com/hc/en-us/requests/new

Technical assistance is available 24 hours, 7 days a week, 365 days a year.

7.2 Administrative Assistance

If you have non-technical questions regarding the Ohio PDMP AWAR_xE System, please contact:

State of Ohio Board of Pharmacy

77 South High Street 17th Floor

Columbus, OH 43215-6126

P: 614-466-4143 Option 1

F: 614-644-8556

Email: info@ohiopmp.gov

Director of OARRS Chad Garner

8 Document Information

8.1 Disclaimer

Appriss has made every effort to ensure the accuracy of the information in this document at the time of printing. However, information may change without notice.

9 Introduction to NarxCare

NarxCare is a robust analytics tool and care management platform that helps prescribers and dispensers analyze real-time controlled substance data from Prescription Drug Monitoring Programs (PDMPs). The primary source of data for the system is PDMP data. NarxCare automatically accesses the PDMP data, analyzes it, scores it, and generates an interactive, patient-centered report with visual enhancements that enable providers to quickly comprehend the patient's controlled substance use history.

The NarxCare platform is designed to accommodate additional, non-PDMP data sources such as claims data, registry data, continuity of care documentation, etc. As these data become available they will be visually incorporated as additional risk indicators and eventually be included in existing and new algorithms.

Every NarxCare report includes type-specific use scores for narcotics, sedatives, and stimulants. These scores are based on a complex algorithm with up to twenty, time-weighted, measurement points. The scores range from 000 to 999, with higher scores equating to higher numbers of prescribers, MME, pharmacies, and overlapping prescriptions.

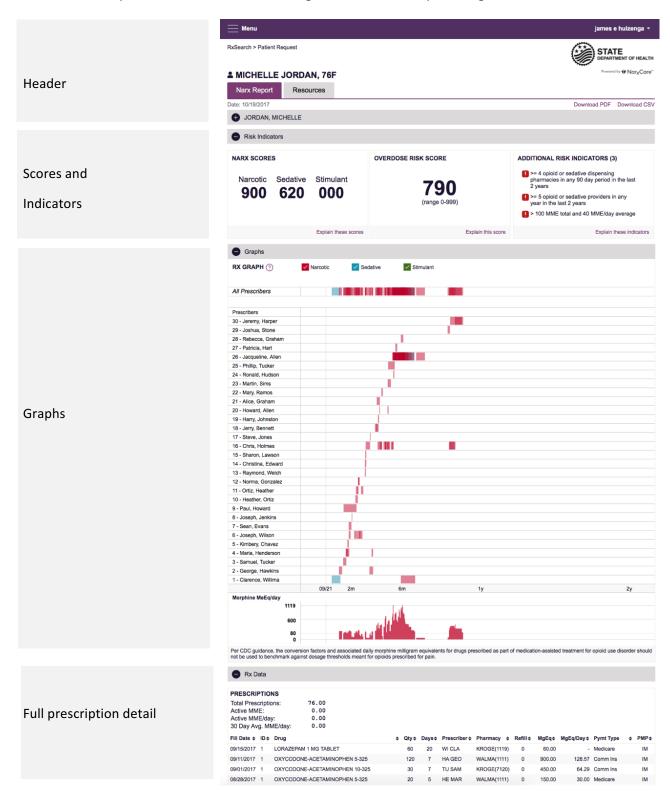
An Overdose Risk Score, developed using advanced data science, is also included. This risk score ranges from 000-999 with higher scores equating to increased risk of unintentional overdose. Currently based on PDMP data, the score will become more holistic in nature as additional data are added to the algorithm.

Data visualization is enhanced with a color coded graphical display of prescription data that is interactive allowing for increased detail when desired.

A Resources section provides tools that enable providers to link patients with treatment and easily obtain information documents that may be helpful as reference material or patient handouts.

10 Application Interface Overview

The NarxCare report interface is a modular design with several collapsible segments.



11 Application Section Detail

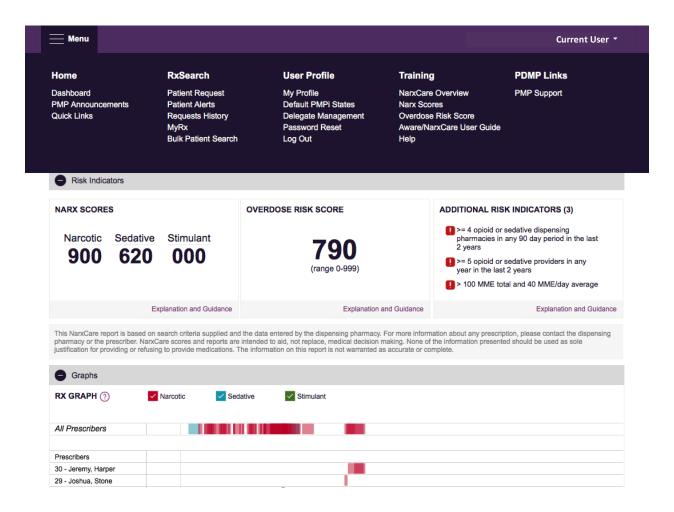
11.1 Header

The Header contains several report and account level controls.

- 1. Drop down menu bar
- 2. Patient identifying information
- 3. Navigation tabs
- 4. Report download links

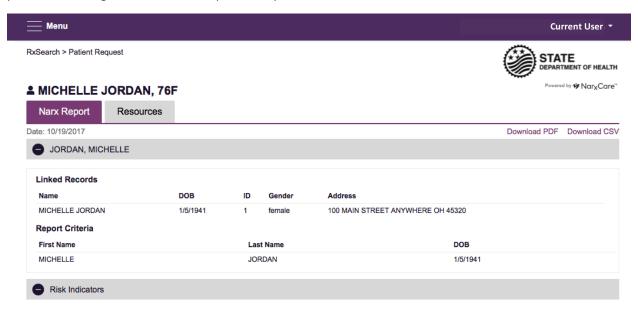
11.1.1 Drop down menu bar

Clicking on the menu icon allows for navigation to all functional areas in Aware. For full detail on Aware menu items please see the Aware User Guide [link]. For NarxCare users, there are additional training links in the drop-down menu as well as a link to this user guide. Clicking on the user's name reveals several account specific options.



11.1.2 Patient Identifying Information

The patient's name, age in years, and sex are displayed above the navigation tabs. The first collapsible item of the Narx Report interface is a collapsible segment that contains additional information about the patient including Date of Birth and possible specific address information as well.



11.1.3 Navigation tabs

Under the patient's name are two tab options labeled Narx Report and Resources. The default is the Narx Report. Clicking on the Resources tab will expose several treatment locator and document resources that may be useful in managing patient referrals or reviewing CDC guidelines.



11.1.4 Report download links

On the right side of the report below the state logo are two download links that allow the user to download a report PDF or a comma separated values (csv) file of the PDMP data.



11.2 Narx Report

The body of the Narx Report contains several functional areas aimed at rapidly raising awareness of risk and prescription use patterns, and when required, individual prescription detail.

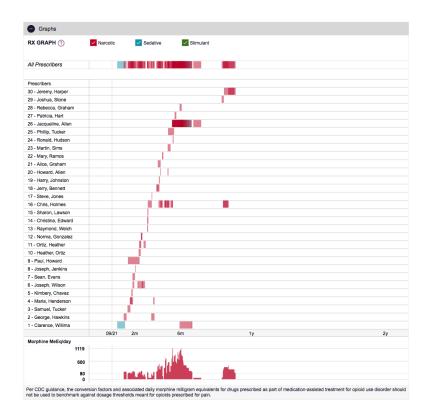
11.2.1 Scores and additional risk indictors

NarxCare includes a series of type specific use scores termed Narx Scores, an Overdose Risk Score, and Additional Risk Indicators at the top of the Narx Report. These scores and other elements are often automatically returned to the requesting system as discrete data. Requesting systems receiving such data can choose to display the scores within the native electronic health record or pharmacy management system, and many system choose to display these data in the patient header, face sheet, or alongside patient vital signs. *More information on the scores and the additional risk indictors is available later in this document.*



This NarxCare report is based on search criteria supplied and the data entered by the dispensing pharmacy. For more information about any prescription, please contact the dispensing pharmacy or the prescriber. NarxCare scores and reports are intended to aid, not replace, medical decision making. None of the information presented should be used as sole justification for providing or refusing to provide medications. The information on this report is not warranted as accurate or complete.

11.2.2 Rx Graph



The RxGraph is a key visualization instrument that allows providers to rapidly see important patterns and levels of use. Some key design elements include:

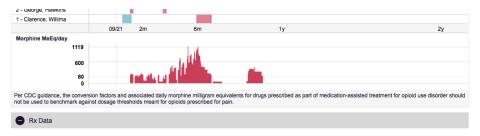
- 1. Prescriptions are color coded and selectable at the top of the graph:
 - a. Narcotics (opioids) = Red
 - b. Sedatives (benzodiazepines, sleep aids, etc.) = Blue
 - c. Stimulants = Green

- d. Other = Gray
- 2. The RxGraph is *reverse* time ordered. The most recent prescriptions are on the left side of the graph and the oldest are on the right side of the graph.
- 3. Each pixel in the graph represents 1 day. As a result, a 30-day prescription is represented by a rectangle about 1cm wide and a 1-3-day prescription appears as a narrow vertical bar.



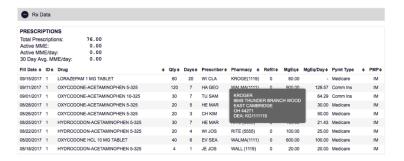
4. The RxGraph is interactive. Prescriptions can be clicked on or dragged over to see greater detail. Providers can also be clicked on to see greater detail.

A daily morphine milligram equivalency (MME) graph is also provided for a quick longitudinal view of daily MME. Abrupt changes in daily MME are often due to overlapping prescriptions.



11.2.3 Prescription Detail

Each prescription dispensed to the patient is presented in a table format. Column headers are selectable. The prescriber and pharmacy fields have additional data available if the cursor is hovered over the element.



11.2.4 Prescriber and Pharmacy Detail

All prescriber and pharmacy identities are presented in a table with additional practice and location information available for review.

PROVIDERS										
Total Providers: 30										
Name	\$	Address	♦ City		State		Zipcode		DEA	\$
ALICE, GRAHAM		4026 IRON HOLLOW	HANNIBAL		ОН		44879		AG5511111	
CHRIS, HOLMES		5805 GREEN TURNABOUT	FREDERICK		ОН		45270		CH5511111	
CHRISTINA, EDWARDS		9912 DUSTY BARN RANGE	MAHONING		ОН		45152		CE5511111	
CLARENCE, WILLIMASON		4256 NOBLE FOREST WALK	CHASE		ОН		43129		CW5511111	
GEORGE, HAWKINS		7728 QUIET EXT	FISHER		ОН		43897		GH5511111	
HADDY INHISTORI		AR18 HAZV WILLOW LEDGE	HUDE		OH		4E614		⊔ ISS11111	
PHARMACIES										
PHARMACIES Total Pharmacies: 11										
	•	Address	\$ City	•	State	•	Zipcode	•	DEA	•
Total Pharmacies: 11	•	Address 2890 COLONIAL AVE	City DAYTON	\$	State OH		Zipcode 45419	+	DEA CV5555555	¢
Total Pharmacies: 11	•		•	•		¢		•		•
Total Pharmacies: 11 Name CVS	*	2890 COLONIAL AVE	DAYTON	ф	ОН	ф	45419	\$	CV5555555	•
Total Pharmacies: 11 Name CVS CVS	•	2890 COLONIAL AVE 4322 GENTLE DALE PIKE	DAYTON POST BOY	ф	ОН	¢	45419 43062	¢	CV5555555 CV5511111	٠
Total Pharmacies: 11 Name CVS CVS KERR	•	2890 COLONIAL AVE 4322 GENTLE DALE PIKE 808 SLEEPY QUAIL DELL	DAYTON POST BOY RICHFIELD	•	ОН ОН	\$	45419 43062 44829	\$	CV5555555 CV5511111 KR0017120	•

11.3 Resources

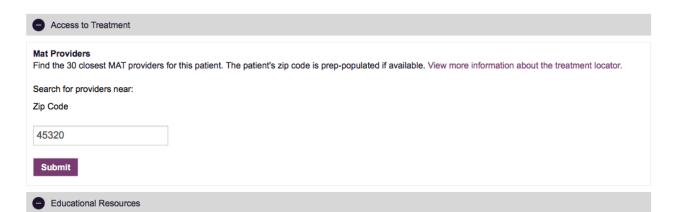
The Resources tab aggregates additional functionality and provider and patient information sheets for easy access.

11.3.1 MAT locator

An MAT locator is provided that quickly creates a list of the 30 closest providers who are listed in the Substance Abuse and Mental Health Administration (SAMHSA) buprenorphine treatment locator database. The patient's zip code is pre-populated but can be edited. Clicking on the submit button automatically generates a PDF that can be viewed and printed.

11.3.2 CDC documents

A series of CDC documents pertaining to both providers and patients are available for quick reference and printing if desired.



INFORMATIONAL DOCUMENTS

Click the associated link and print. View more information about resources.



Narx Scores

11.4 Overview

The NarxCare application delivers several elements of discrete data and a visually enhanced, interactive PDMP report. Contained on the report, and delivered as discrete data, are three type-specific *use* scores termed Narx Scores. These Narx Scores numerically represent the PDMP data for a patient.

Narx Scores are calculated for narcotics (opioids), sedatives, and stimulants and have the following characteristics:

- 1. Each Score is three digits and ranges from 000-999
- 2. The <u>last digit</u> of each Score represents the number of active prescriptions of that type. For example, a Narcotic Score of 50<u>4</u> indicates the patient should have 4 active narcotic prescriptions according to dispensation information in the PDMP.
- 3. The scores *correspond* to the number of literature based risk factors that exist within the PDMP data. These risk factors include:
 - a. The number of prescribers
 - b. The number of pharmacies
 - c. The amount of medication dispensed (often measured in milligram equivalencies)
 - d. The number of times prescriptions of a similar type overlap from different prescribers.
- 4. The time elapsed for any risk factor serves to decrease its contribution to the score. For example, 1000 morphine milligram equivalencies (MME) dispensed within the last month will elevate the score *more than* 1000 MME dispensed 1 year ago.
- 5. The distribution of Narx Scores for patients found in a PDMP is approximated as follows:
 - a. 75% score less than 200
 - b. 5% score more than 500
 - c. 1% score more than 650

The Narx Scores were designed such that:

- A. Patients who use small amounts of medication with limited provider and pharmacy usage will have **low scores**.
- B. Patients who use large amounts of medications in accordance with recommended guidelines (single provider, single pharmacy, etc.) will have **mid-range scores**.
- C. Patients who use large amounts of medications while using many providers and pharmacies, and with frequently overlapping prescriptions will have **high scores**.

11.5 Narx Score Algorithm

Relative Scoring

Narx Scores represent a *relative scoring* system wherein the risk factors representing use within a PDMP report are counted *and then converted* to a reference value that ranges from 0-99. These reference values correlate with a percentile measurement of that use within the PDMP population.

A single point measurement of total MME in the last 60 days can be used to illustrate this concept further using the following three patients:

Patient A: 160 MME

Patient B: 4800 MME

Patient C: 1050 MME

If we were to place these three patients on a line of relative risk we could intuit a linear relationship based on MME and they could be depicted as follows:



This depiction has no boundaries to the left or right so these patients could just as easily be drawn as follows:



The NarxCare algorithm uses a unique strategy to establish boundaries of use by converting all measured variables, such as 60 day MME, to a scaled value between 0 and 99. This was done by evaluating a large PDMP population and measuring the 60 day MME value for every patient. This set of data was then used to create a reference table roughly equating to a percentile in the population. If we add the scaled value to each example patient's 60 day MME we get:

Patient A: 160 MME | 20

Patient B: 4800 MME | 90

Patient C: 1050 MME | 65

If we apply these new scaled values to our risk diagram and create a left and right boundary of 0 and 99 we get:



Interestingly, the population based scaled values indicate that Patient B and C are closer to each other than might otherwise be suspected. In this case, we can also say that Patient B has used more MME in the last 60 days than 90% of the rest of the PDMP population.

Time periods

The NarxCare algorithm evaluates a PDMP record using 4 different, overlapping time periods. In each time period the risk factor being evaluated is tabulated and then converted to a scaled value. Here is an example of a provider reference table.

Prescribers	2mo Scaled	6mo Scaled	1yr Scaled	2yr Scaled
0	0	0	0	0
1	19	12	8	6
2	36	22	16	11
3	51	32	23	16
4	64	41	30	21
5	75	49	37	26
6	85	57	43	30
And so on				

These reference tables exist for all the risk factors being evaluated, and cover all 4 time periods. In general, as the raw value count (i.e. number of prescribers) increases, so does the reference value (up to 99 maximum). As the time period increases the scaled value decreases.

Prescriber Count	2mo Scaled	6mo Scaled	1 yr Scaled	2yr Scaled
Pharmacy Count	2mo Scaled	6mo Scaled	1 yr Scaled	2yr Scaled
Morphine MME	2mo Scaled	6mo Scaled	1 yr Scaled	2yr Scaled
Sedative LME	2mo Scaled	6mo Scaled	1 yr Scaled	2yr Scaled
Overlap Days	2mo Scaled	6mo Scaled	1 yr Scaled	2yr Scaled
0	0	0	0	0
1	3	2	1	1
2	6	4	3	2
3	9	5	4	3
4	11	7	6	4
5	14	9	7	5
6	16	10	8	6
And so on				

Weighting

A Narx Score is calculated as a weighted average of the scaled values. A 50% weighting is applied to the milligram equivalencies with the remaining risk factors making up the other 50%.



This type of weighting results in several reliable relationships. If we think of milligram equivalency as *consumption* and the combination of providers, pharmacies, and overlaps collectively as *behaviors*, we can intuit the following score categories.

	Consumption	<u>Behaviors</u>	Narx Score
Patient A	Low	Low	Low
Patient B	Low	High	Mid
Patient C	High	Low	Mid
Patient D	High	High	High

It is important to understand that there are several different patterns of user that can result in the same score. It is <u>always</u> necessary to look at the actual PDMP data to determine what use patterns exist that have resulted in the Narx Score presented.

Algorithm and Score Computation

The steps involved with calculating a Narx Score are as follows:

- 1. Determine the raw values for all time periods for all variables
- 2. Convert all raw values to scaled values
- 3. Average the scaled values for each risk factor for all time periods
- 4. Determine weighted average
- 5. Add (concatenate) the number of active prescriptions.

Using a sample patient as an example to illustrate the calculation of a Narcotic Score:

1. Determine the raw values for all time periods for all variables.

	60 days	6 mos	1 year	2 years
Prescribers	6	9	15	15
Pharmacies	4	4	6	6
MME	1640	5408	7358	7364
LME	0	0	0	0
Overlaps	17	55	65	65

2. Convert all raw values to scaled values.

	60 days	6 mos	1 year	2 years
Prescribers	85	76	84	64
Pharmacies	78	56	62	49
Morphine milligram eq	74	87	88	87
Lorazepam milligram eq	0	0	0	0
Overlaps	41	70	64	52

3. Average the scaled value for each risk factor for all time periods.

	60 days	6 mos	1 year	2 years	Avg
Prescribers	85	76	84	64	77
Pharmacies	78	56	62	49	61
MME	74	87	88	87	84
LME	0	0	0	0	0
Overlaps	41	70	64	52	57

4. Calculate the weighted average.

	60 days	6 mos	1 year	2 years	Avg	Wt	
Prescribers	85	76	84	64	77	1	77
Pharmacies	78	56	62	49	61	1	61
MME	74	87	88	87	84	3	252
LME	0	0	0	0	0	1	0
Overlaps	41	70	64	52	56	2	114
Weighted Average (sum/8)						63	

5. Add (concatenate) the number of active prescriptions

	60 days	6 mos	1 year	2 years	Avg	Wt	
Prescribers	85	76	84	64	77	1	77
Pharmacies	78	56	62	49	61	1	61
MME	74	87	88	87	84	3	252
LME	0	0	0	0	0	1	0
Overlaps	41	70	64	52	56	2	114
	Weighted Average (sum/8)						
Number of Active Narcotic Prescriptions						<u>2</u>	
Narcotic Score						63 <u>2</u>	

11.6 Clinical Application

In work-flow use

Narx Scores are intended to be delivered into workflow automatically as discrete data and be easily viewable within a patient's record. Many systems choose to place the scores in the patient header, or alongside the patient's vital signs.

Narx Scores are best viewed at the beginning of a patient encounter, as such they should be obtained at or near the time a patient is registered.

General Considerations

- The primary purpose of providing Narx Scores is to raise provider awareness to the associated PDMP data available for review.
- Concerning Narx Scores are intended to trigger a *discussion*, **not a decision**. If a Narx Score raises concern the recommended course of action is to evaluate the PDMP data, review any additional pertinent data, and discuss any concerns with the patient.
- Just as there is no single blood pressure that can be considered *normal* for all people, there is no Narx Score that is *normal*. A Narx Score must be applied to the clinical scenario before evaluating appropriateness. For example, a blood pressure of 120/80 can simultaneously be:
 - o Inappropriate for a 2-month-old infant
 - Appropriate for a 20-year-old woman
 - Inappropriate for an elderly patient with an average daily blood pressure of 200/100
- Narx Scores are distributed within the PDMP population as follows:
 - o 75% of patients score below 200
 - o 5% of patients score above 500
 - o 1% of patients score above 650

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Example Use Cases

Narx Scores can be used to great effect in certain clinical scenarios. Again, the recommended course of action is to seek additional information and discuss concerns with the patient.

Case A – An 17y/o male basketball player with other significant history presents with a severe ankle sprain. His Narx Scores are:

<u>Narcotic</u>	<u>Sedative</u>	<u>Stimulant</u>
000	000	000

Important consideration: If considered for an opioid due to the severity of injury, this may be the patient's first exposure to the effects of an opioid. Recommend thorough review of the risks and benefits with the patient and consideration of an informed consent process.

Case B – an 81 y/o female presents with decreased level of consciousness following a fall where she suffered a closed head injury. Her Narx Scores are:

<u>Narcotic</u>	<u>Sedative</u>	<u>Stimulant</u>
341	501	000

Important Consideration: Many elderly patients are on chronic opioids and benzodiazepines. The use of opioids and benzodiazepines for this patient may have contributed to her fall. The patient may be taking enough medication to develop anxiety seizures due to benzodiazepine withdrawal, complicating the medical picture.

Case C – A 36 y/o male patient with mild chronic back pain frequently treated with opioids presents for a medication refill. On review of the PDMP record the patient has been to 17 different prescribers in the last year. His Narx Scores are:

<u>Narcotic</u>	<u>Sedative</u>	<u>Stimulant</u>
671	240	000

Important Consideration: Many patients obtain medications through multiple different providers. This can be due to the patient being seen in a clinic that is staffed by different providers, or can be due to *access to care* issues requiring visits to urgent care centers or emergency departments.

Score Based Guidance

Score/Range	<u>Notes</u>	Recommendations*
000	This may be the first prescription of this type for the patient.	Discuss risks/benefits of using a controlled substance. Consider informed consent.
010-200	Approximately 75% of scores fall in this range.	Review use patterns for unsafe conditions.
	Occasionally, patients in this score range have a remote history of high usage (> 1 year ago).	Discuss any concerns with patient. See guidance below

If previously high usage exists with recent abstinence, consider risk/benefits of new prescriptions

201-650 Approximately 24% of scores fall Review use patterns for unsafe conditions.

Discuss any concerns with patient. See guidance below.

> 650 Approximately 1% of scores fall in this range.

Some patient records may have a score in this range and *still be* within prescriber expectations.

Many patient records include some level of multiple provider episodes, overlapping prescriptions, or elevated milligram equivalency. Review use patterns for unsafe conditions.

If multiple providers involved in unsafe prescribing discuss concern with patient and consider contacting other providers directly.

If multiple pharmacies involved in unsafe prescribing discuss concern with patient and consider pharmacy lock-in program.

If overlapping medications of same or different type, discuss concern with patient and consider taper to lower dose and/or discontinuation of potentiating medications.

If patient has evidence of a substance use disorder, consider inpatient admit or referral for outpatient evaluation and treatment.

12 Overdose Risk Score

12.1 Overview

The NarxCare application delivers several elements of discrete data and a visually enhanced, interactive PDMP report. Contained on the report, and delivered as discrete data, is an Overdose Risk Score (ORS). This score numerically represents the risk of unintentional overdose death.

The ORS has the following characteristics:

- 1. The Score is three digits and ranges from 000-999
- 2. Risk approximately doubles for every 100-point increase in the score.
- 3. Using patients who score 0-199 as a referent group the odds ratio associated with successive 100 point bins is as follows: [new table coming]

ORS	Odds Ratio of Unintentional Overdose Death
000-199	1
200-299	10
300-399	12
400-499	25
500-599	44
600-699	85
700-799	141
800-899	194
900-999	329

12.2 ORS Algorithm

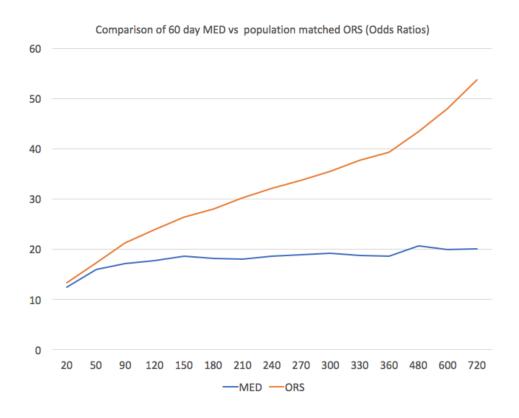
The ORS algorithm was derived using machine learning and other predictive techniques applied to a large case series of over 5,000 unintentional overdose deaths. For the first version of the score, more than 70 PDMP variables were evaluated with 12 chosen for the final model. Subsequent revisions of the model have included evaluation of 1,000s of variables, and efforts to include non-PDMP data such as criminal justice information, claims data, overdose registry data, etc. are ongoing. A specific characterization of the current variables and coefficients is beyond the scope of this document. In general, the variables that have shown to be predictive of unintentional overdose death include:

- The number of pharmacies visited per unit time
- Maximum morphine milligram equivalency (MME) in the last year
- The number of prescribers in the last 2 years
- Various slopes of opioid and sedative use
- Various slopes of prescriber usage

This section will be updated when new types of variables are incorporated and/or new sets of data are included.

12.3 Clinical Application

The ORS is intended to eventually provide a holistic estimate of overdose risk. At the current time, the risk assessment does not incorporate any data other than PDMP usage. This aligns the clinical application of the score with other sources of overdose risk assessment based on PDMP data such as number of pharmacies visited in the last 90 days, or daily morphine equivalent dose (MED). The ORS performs much better than estimates using only one variable. For example, when comparing the utility of average MED in the last 60 days to the ORS, one can easily see that while MED does have a dose response curve, the ORS has markedly higher performance.



The absolute risk of death from unintentional overdose is very low in the population of patients found in a PDMP. Even though the annual unintentional overdose death rate is unacceptably high, measured in the thousands for many states, the number of people using controlled substances in those same states are in the multiple millions. Patients on elevated doses of medication are also prevalent and have a low overall incidence of unintentional overdose death. For example, in evaluating average daily MED over a period of 60 days in one state, the following death rates were found:

60-day MED avg	Decedents	Living	Death Rate
90 MED	1,008	162,231	0.6%
150 MED	722	94,681	0.8%
480 MED	144	13,693	1.0%

The results of this analysis equate the Center for Disease Control's (CDC) recommended maximum 90 MED for chronic opioid use to an expected death rate of just 0.6%. It isn't until you get to an avg MED of 480 that the death rate reaches 1% and at that level there are over 13,000 patients in the PDMP database.

One method of incorporating the ORS into clinical practice is to use a value of 650 as a threshold approximately equivalent to the CDC's recommended maximum of 90 MED. Just as patients who are above 90 MED are often evaluated for dose reduction, patients above a score of 650 may similarly be considered for:

- 1. Substance Use Disorder evaluation and treatment (if appropriate)
- 2. Discontinuation of potentiating drugs (if present)
- 3. Dose reduction
- 4. Provider Lock-in
- 5. Pharmacy Lock-in
- 6. Consideration of non-opioid therapy

Score Based Guidance

The overdose risk score (ORS) can be applied to clinical practice in a manner analogous to daily morphine equivalent dose (MED). The CDC opioid prescribing guidelines recommend naloxone be considered at 50 MED and that most patients should be treated at a dose of 90 MED or less. Using an equivalent population methodology, the following ORS ranges can be associated with CDC MED based guidance.

<u>Score</u>	Approximate CDC MED Equivalent	<u>Guidance*</u>
< 010-440	< 50 MED	Consider other sources of risk beyond PDMP data. See below
450 - 650	50 MED (or more)	Consider naloxone prescription
		See below
> 650	90 MED (or more)	Consider naloxone prescription
		Review use patterns for unsafe conditions.
		If multiple providers involved in unsafe prescribing discuss concern with patient and consider contacting other providers directly.
		If multiple pharmacies involved in unsafe prescribing discuss concern with patient and consider pharmacy lock-in program.
		If overlapping medications of same or different type, discuss concern with patient and consider taper to lower dose and/or discontinuation of potentiating medications.
		If patient has evidence of a substance use disorder, consider inpatient admit or referral for outpatient evaluation and treatment.

13 Additional Risk Indicators

13.1 Overview

The NarxCare application delivers several elements of discrete data and a visually enhanced, interactive PDMP report. Contained on the report, and delivered as discrete data, are a set of Additional Risk Indicators. These indicators may be determined by the state PDMP and are felt to have stand-alone value.

This section is intended to aggregate important information from multiple sources of data. These data sources may include PDMP data, claims data, overdose registry data, continuity of care documents, and criminal justice.

There are currently three PDMP based indicators:

- More than 5 providers in any 365-day period
- More than 4 pharmacies in any 90-day period
- More than 40 MED average and more than 100 MME total at any time in the previous 2 years

These indicators are based on the following literature:

Provider red flag: Hall AJ, Logan JE, Toblin RL, et al. Patterns of Abuse Among Unintentional Pharmaceutical Overdose Fatalities. *JAMA*.2008;300(22):2613-2620. doi:10.1001/jama.2008.802.

Pharmacy red flag: Zhou Yang, Barth Wilsey, Michele Bohm, et al. Defining Risk of Prescription Opioid Overdose: Pharmacy Shopping and Overlapping Prescriptions Among Long-Term Opioid Users in Medicaid. The Journal of Pain, Volume 16, Issue 5, 445 – 453.

40 MED red flag: Leonard Paulozzi, Edwin Kilbourne, Nina Shah, et. al. A History of Being Prescribed Controlled Substances and Risk of Drug Overdose Death. Pain Medicine Jan 2012, 13 (1) 87-95; DOI: 10.1111/j.1526-4637.2011.01260.x.

13.2 Clinical Application

PDMP based indicators typically corroborate any concerns raised by Narx Scores and Overdose Risk Score (ORS).

When available, additional risk indictors sourced from non-PDMP data sources may represent other dimensions of risk such as past heroin use, substance use disorder, previous overdose, etc.

When non-PDMP indicators become routinely available, they will be modeled into the ORS and it may then be the case that a patient may have low Narx Scores (due to low use of prescribed controlled substances) BUT have an elevated ORS (due to high risk associated with non-PDMP data.

In all cases, if a provider determines that inappropriate risk exists for a patient, they should seek additional information, discuss the risk concern with the patient, and choose appropriate medical care options that are in the best interest of the patient.

<u>Indicator</u>	<u>Guidance*</u>
More than 5 providers in any year (365 days)	Review use patterns for unsafe conditions. If multiple providers involved in unsafe prescribing discuss concern with patient and consider contacting other providers directly.
More than 4 pharmacies in any 90 day period	Review use patterns for unsafe conditions. If multiple pharmacies involved in unsafe prescribing discuss concern with patient and consider pharmacy lock-in program.
More than 40 MED per day average and more than 100 MME total	Review use patterns for unsafe conditions. consider taper to lower dose and/or discontinuation of potentiating medications.
If all 3 indicators present	Review use patterns for unsafe conditions. If multiple providers involved in unsafe prescribing discuss concern with patient and consider contacting other providers directly. If multiple pharmacies involved in unsafe prescribing discuss concern with patient and consider pharmacy lock-in program. If overlapping medications of same or different type, discuss concern with patient and consider taper to lower dose and/or discontinuation of potentiating medications. If patient has evidence of a substance use disorder, consider inpatient admit or referral for outpatient evaluation and treatment.