PMP Awarxe™

Ohio PDMP AWARXE

DEMO User Support Manual

Please note: This user support manual may include descriptions of certain features that are available in OARRS but not OARRS Academy.

Contents

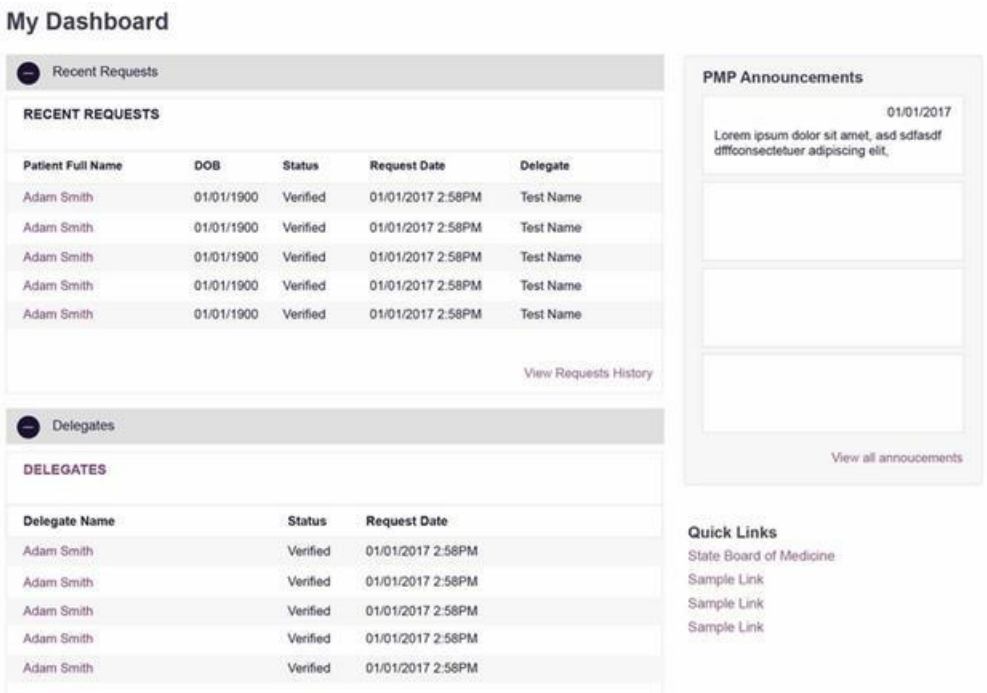
1 Logging In

Log into the application at: https://aware-ohdemo-prep.pmp.appriss.com

User names and passwords were provided in a separate letter to University Deans. If you are a dean or faculty member in need of login information, please send a request to the following email address: info@OhioPMP.gov.

2 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$_x$E, including State Administrator announcements, the user's recent patient searches, and their delegate's/supervisor's status. The Dashboard can be accessed at any time by clicking **Menu** > **Dashboard** (Under "**Home**").



2.1 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.

2.2 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.

2.3 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$_x$E.

3 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.

3.1 Creating a PatientRequest

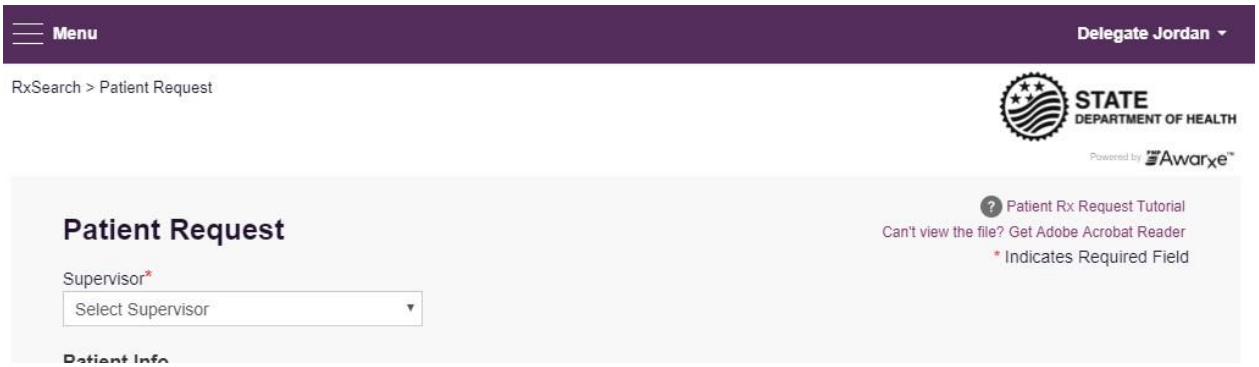
The Patient Request is a report that displays the previous prescription drug activity for a specific patient.

Please use any of the following to view sample data:

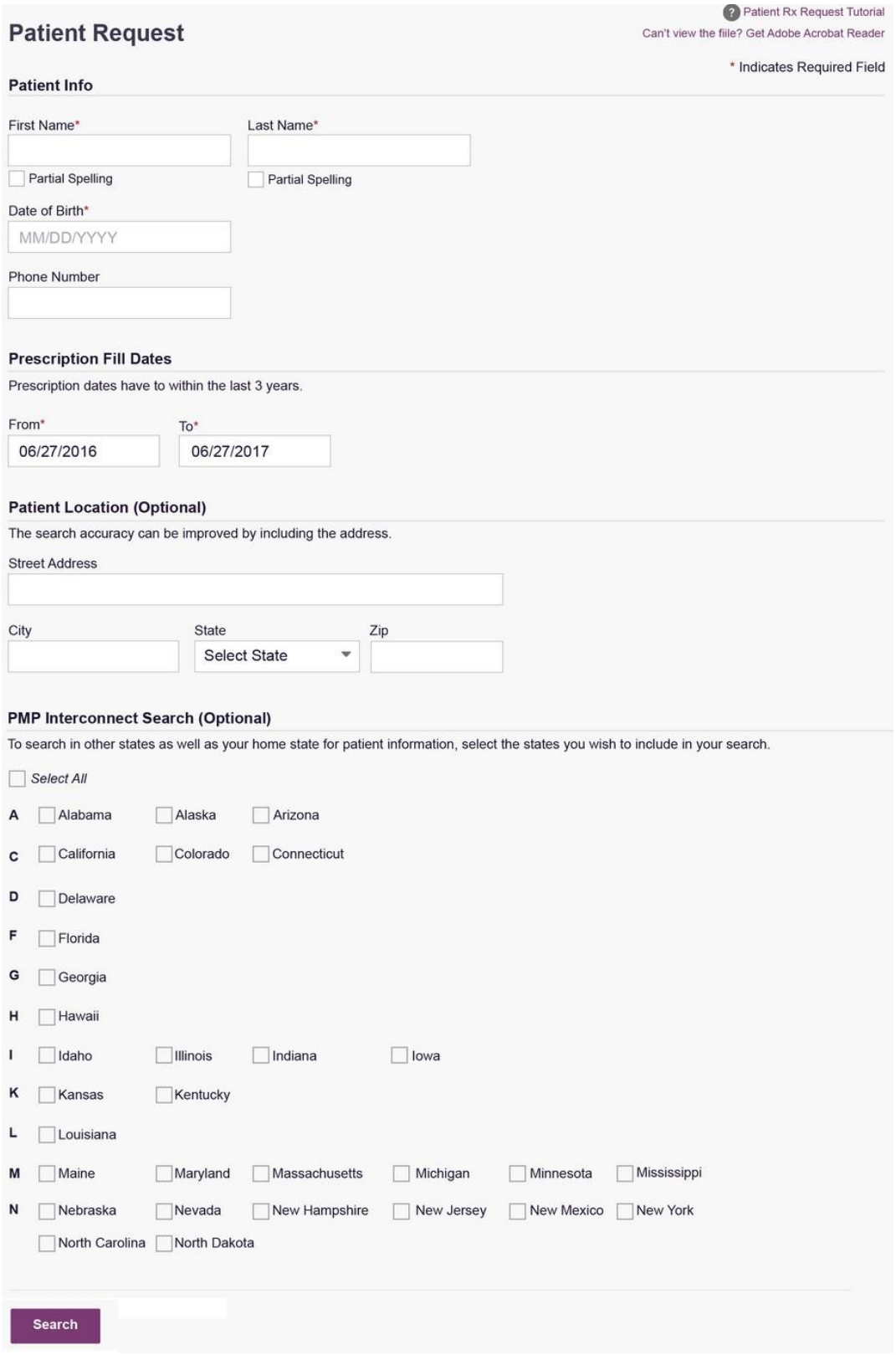
First Name	Last Name	Date of Birth
DAVE	TESTPATIENT	1/1/1900
BOB	TESTPATIENT	1/1/1900
CAROL	TESTPATIENT	1/1/1900
ALICE	TESTPATIENT	1/1/1900
BIGDOG	TESTPATIENT	1/1/2015
TERESA	TESTPATIENT	6/1/1970
CHAD	TESTPATIENT	2/1/1970
BETTY	TESTPATIENT	1/1/1970
ABBI	TESTPATIENT	7/1/1970
CAMERON	TESTPATIENT	8/8/1980
TRACY	TESTPATIENT	9/9/1990
JOANN	TESTPATIENT	4/1/1970
STEVEN	TESTPATIENT	3/1/1970
JOANN	SAMPLE-TESTPATIENT	4/1/1970
JOANN SAMPLE-	TESTPATIENT	4/1/1970
ABBY	TESTPATIENT	7/1/1970
ABIGALE	TESTPATIENT	7/1/1970
ABIGAIL	TESTPATIENT	7/1/1970
JAMES	TESTPATIENT	10/5/1986

1. A user must log into PMP AWAR$_x$E 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 Admi nistrator.



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 Rx Request Tutorial
Can't view the fiile? Get Adobe Acrobat Reader

Patient Request

* Indicates Required Field

Patient Info

First Name*
Partial Spelling

Last Name*
Partial Spelling

Date of Birth*
MM/DD/YYYY

Phone Number

Prescription Fill Dates

Prescription dates have to within the last 3 years.

From* 06/27/2016

To* 06/27/2017

Patient Location (Optional)

The search accuracy can be improved by including the address.

Street Address

City

State Select State

Zip

PMP Interconnect Search (Optional)

To search in other states as well as your home state for patient information, select the states you wish to include in your search.

Select All

A Alabama Alaska Arizona

C California Colorado Connecticut

D Delaware

F Florida

G Georgia

H Hawaii

I Idaho Illinois Indiana Iowa

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 Dakota

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.

3.1.1 Viewing the Patient Rx Request

For more details on understanding the results of the request, please see the Narx Report section.

3.1.2 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 the request has been sent to the administrator.
2. The administrator will review the request to determine patients for viewing.
3. The appropriate results will be returned by the administrator.

3.1.3 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.

3.2 Request History

1. To view a Patient Rx Request that was previouslycreated, navigate to **Menu > RxSearch > Requests History.**
2. A list of Patient Rx Requests made in the previous 30days 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 thescreen.
    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 isdisplayed.
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.

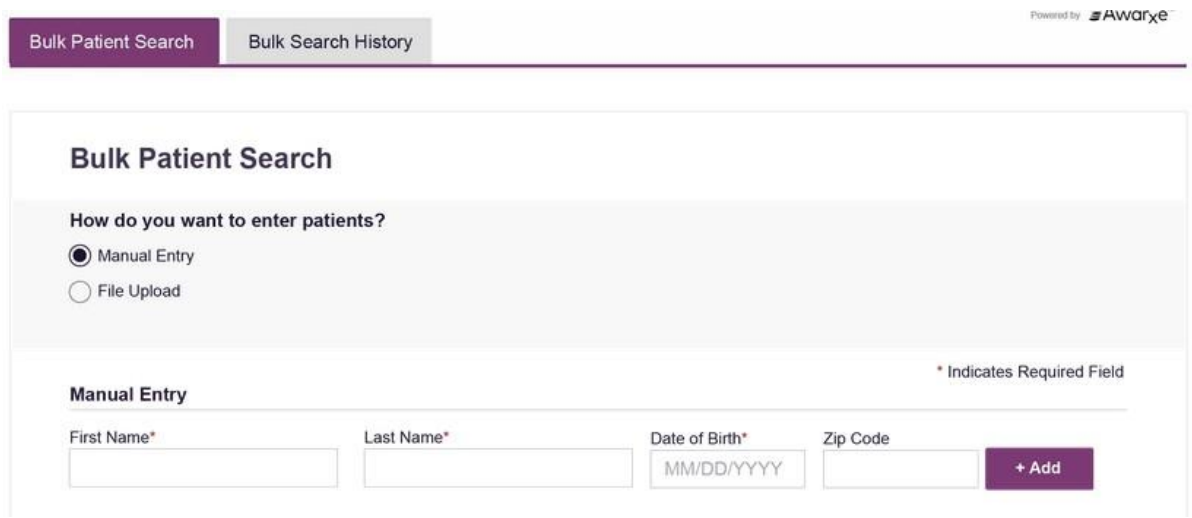
3.3 Bulk Patient Search

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.

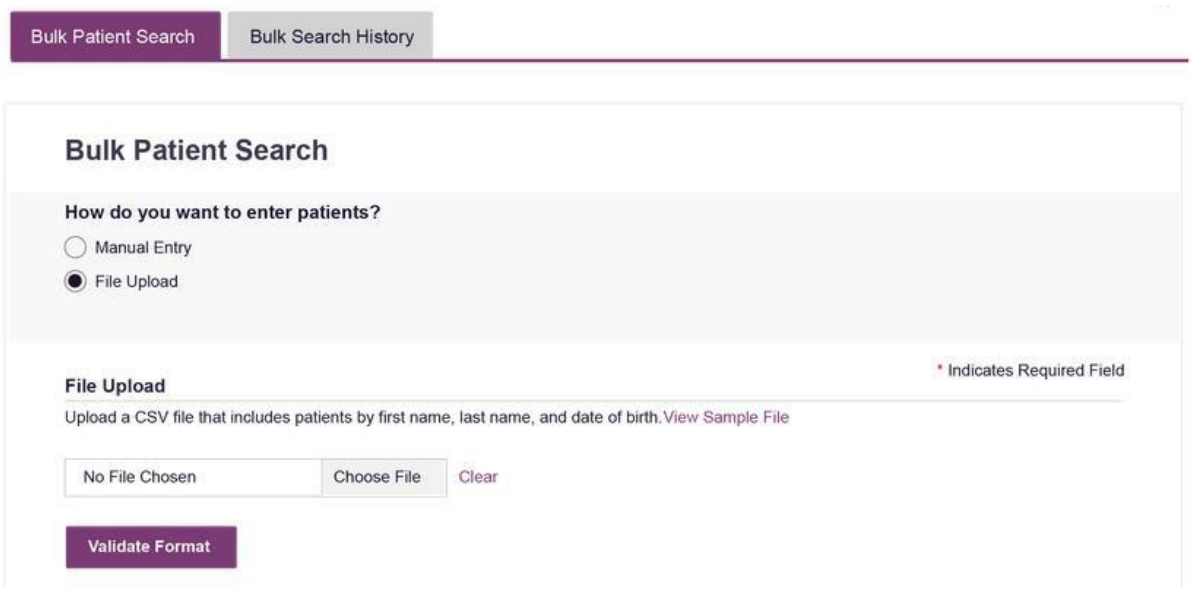
Manual Entry

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



File Upload

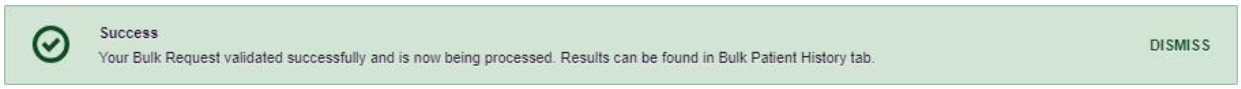
1. Click the radio button for “File Upload”
2. Download the Sample CSV by clicking “ViewSample File”
3. Fill out the required fields and upload the file.
4. Click Validate Format to download a validation report and ensure all records were entered correctly. Null values in the Errors columns indicate 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 manual ly 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 theyhave read it if configured by the State Administrator.

A status message will appear.

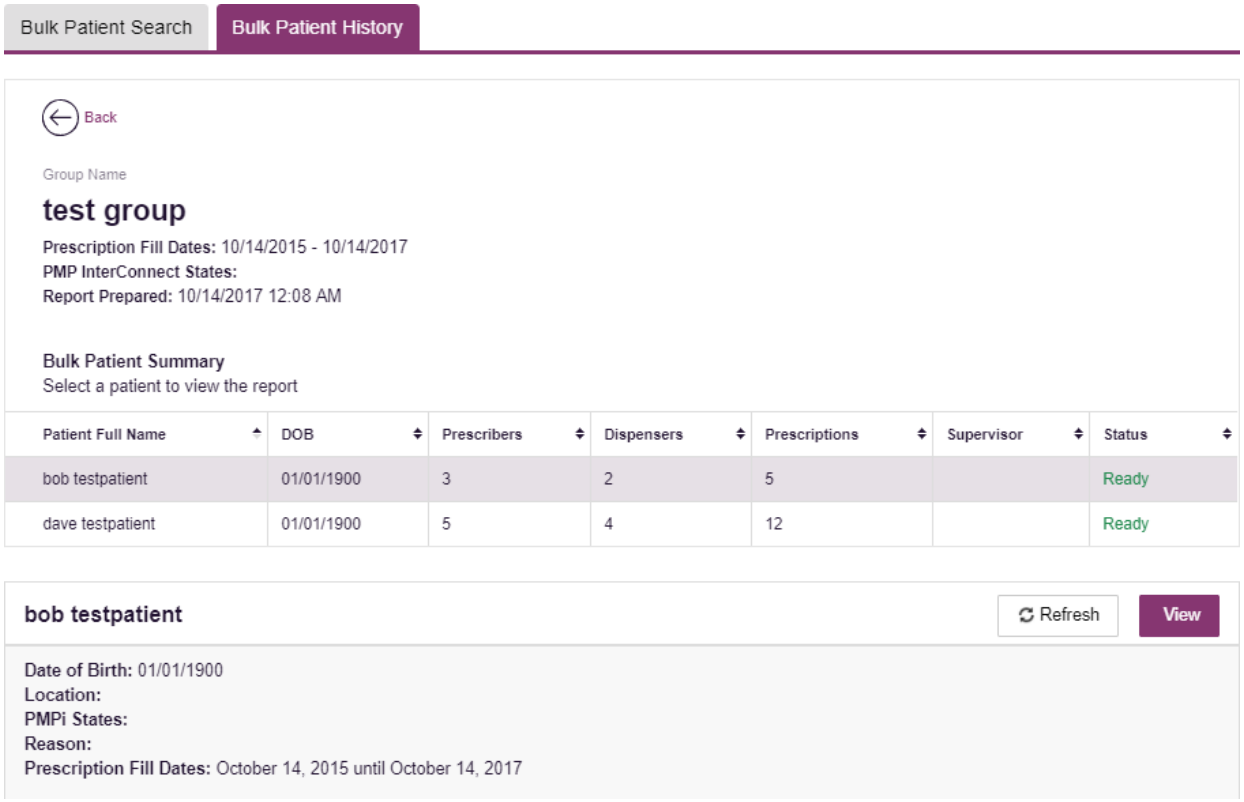


4. To obtain the results of the search, click the Bulk Search History tab to the right of the Bulk Patient Searchtab.

d. The Bulk Search History tab will display previous bulk searches. This screen will indicate whether your search results are still processi ng 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.

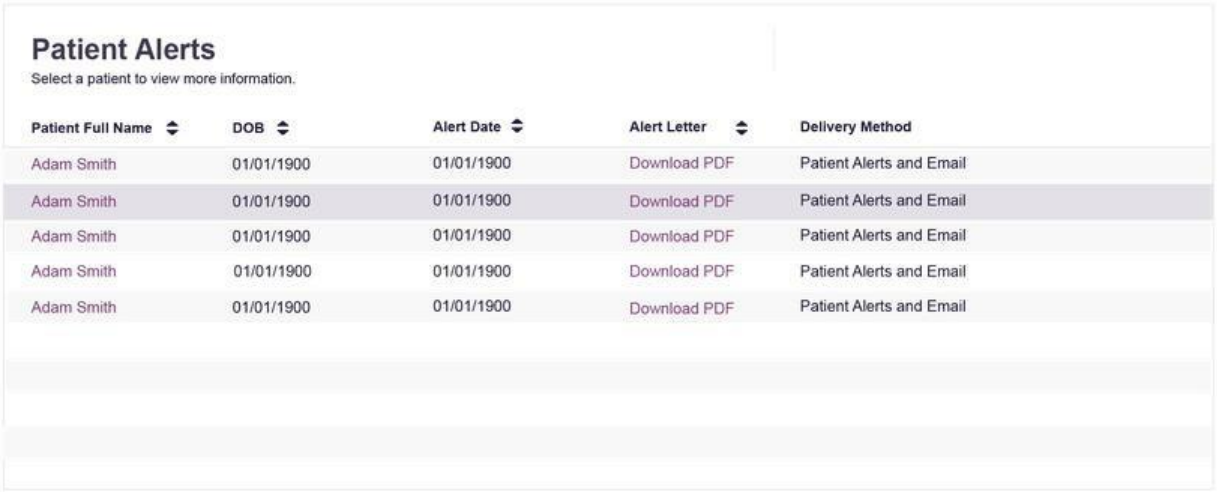


7. Click *View* to see the actual Patient Report, or Click Refresh if you are reviewing a previous report and wish to run a current report. For more information on the report results screen, see the Viewing the Patient Rx Request section.

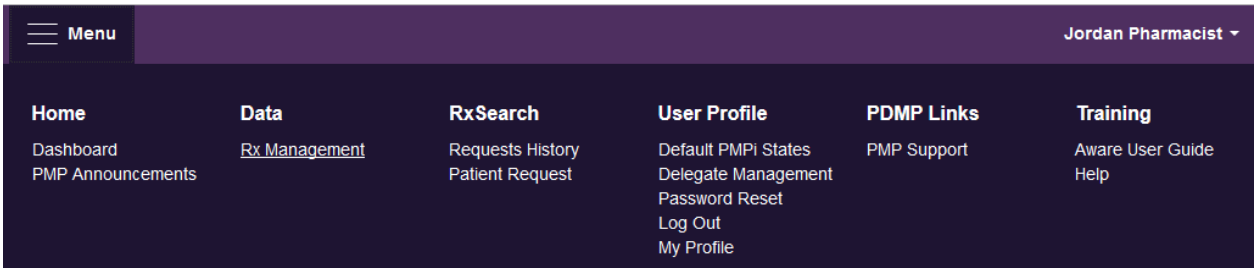
3.4 Patient Alerts

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.



4 Data and Rx Management (available to pharmacists only)



The Rx Management section, located under the Data section, allows for management of prescriptions within PMP AWAR$_x$E. 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.

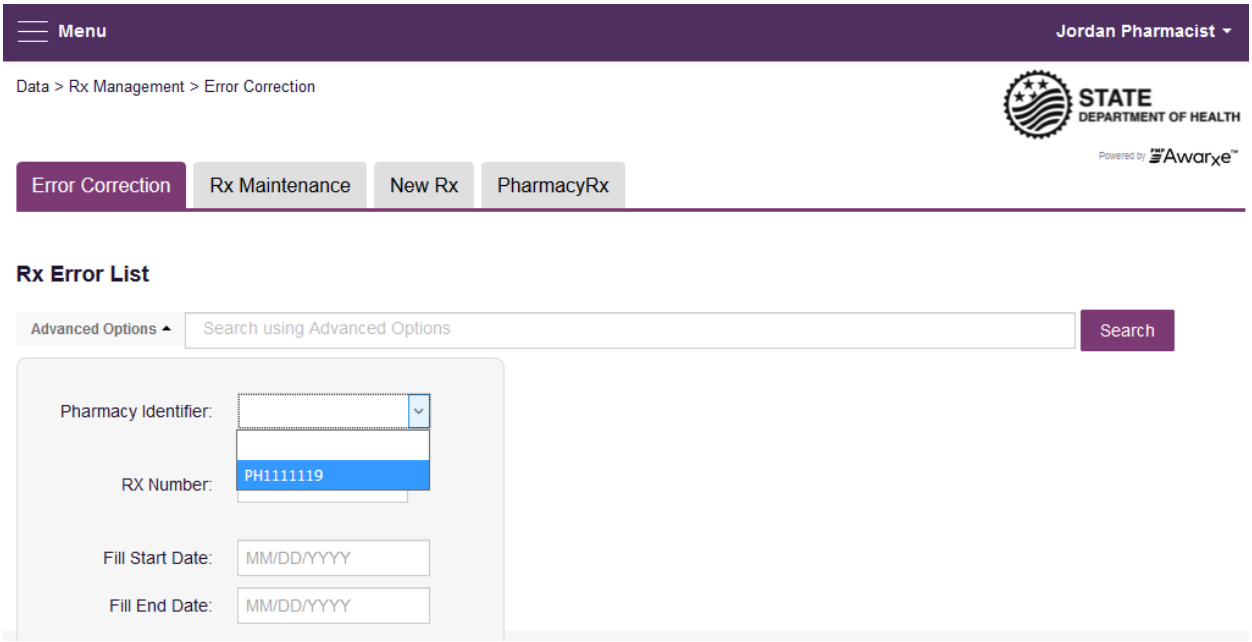
Depending on the settings the State Administrator has enabled for the portal in general and the specific roles types, there may be different options available. The screenshots below and the descriptions that follow in this section are all inclusive. If an option is not available, then it has not bee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

4.1 Error Correction

Error correction allows for correction of errors for any prescriptions submitted to PMP AWAR$_x$E 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$_x$E if a validation error is encountered, as the error must be cleared prior to submission.

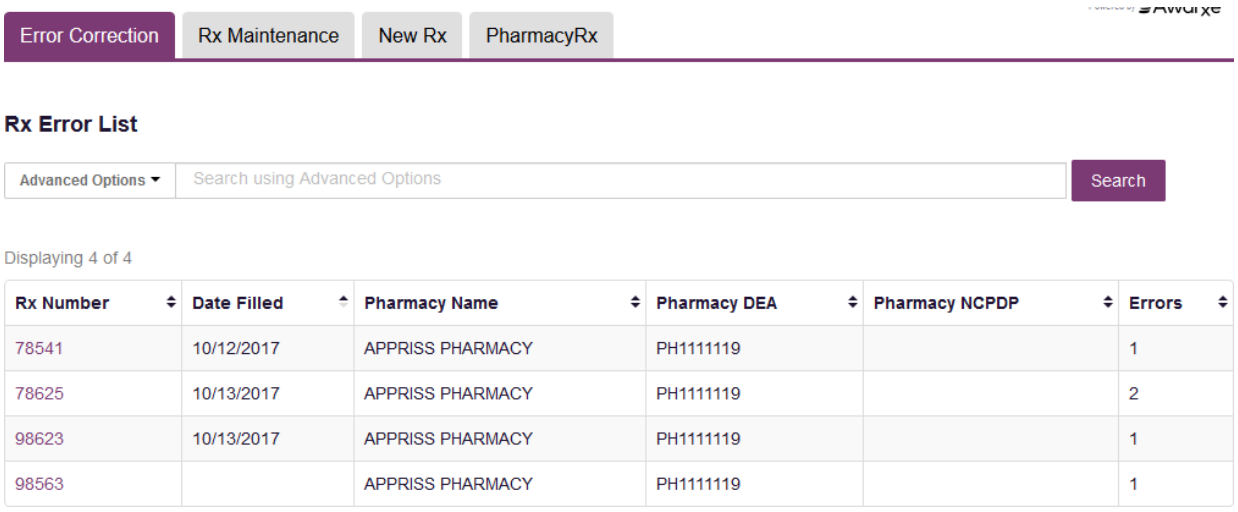
To begin correcting errors:



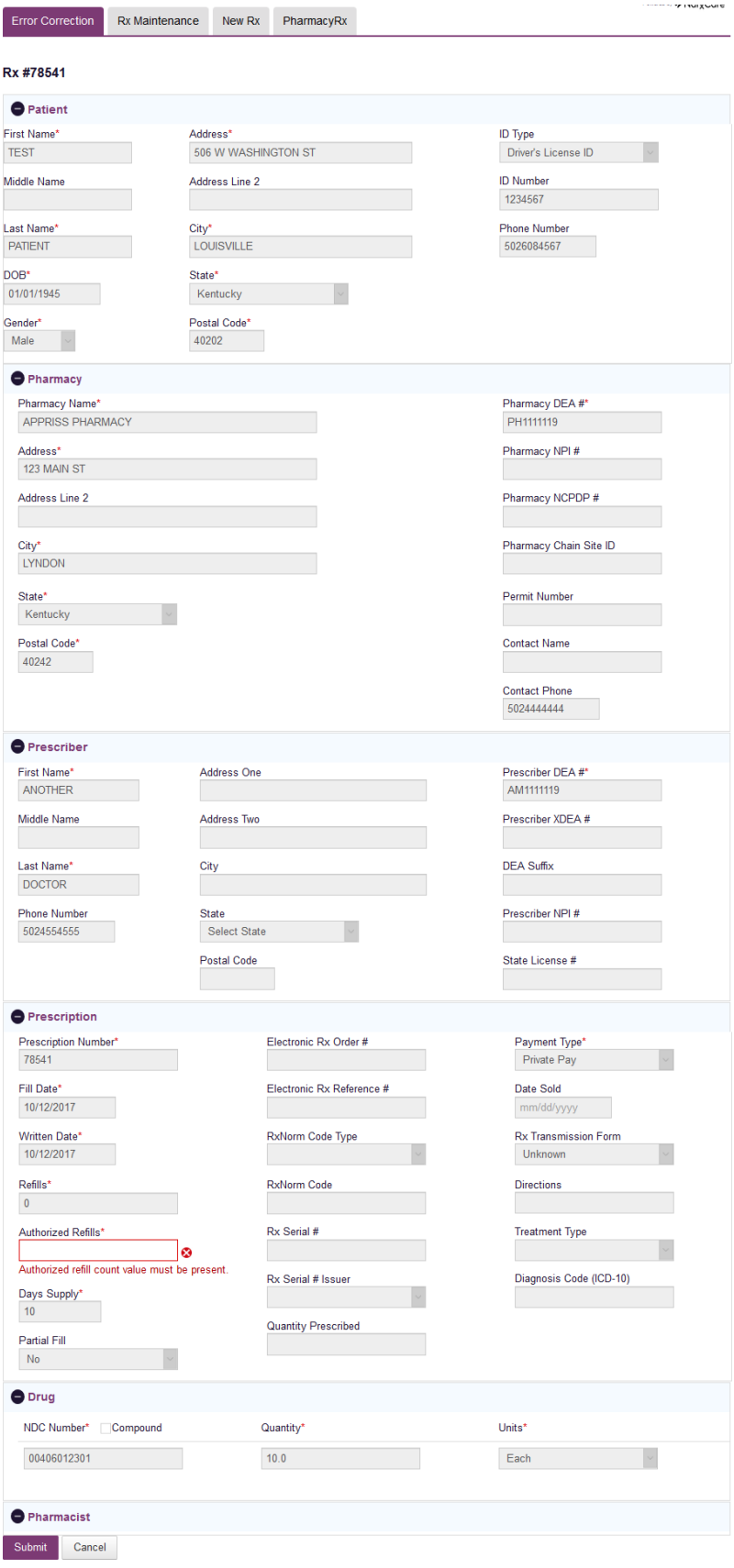
1. Navigate to **Menu > Rx Management** and click the **Error Correction** tab
2. Click "Advanced options" and select a Pharmacy Identifier from the list
   i) If there are no identifiers in the list, please contact the State Administrator
3. Enter a prescription number and/or date range if necessary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

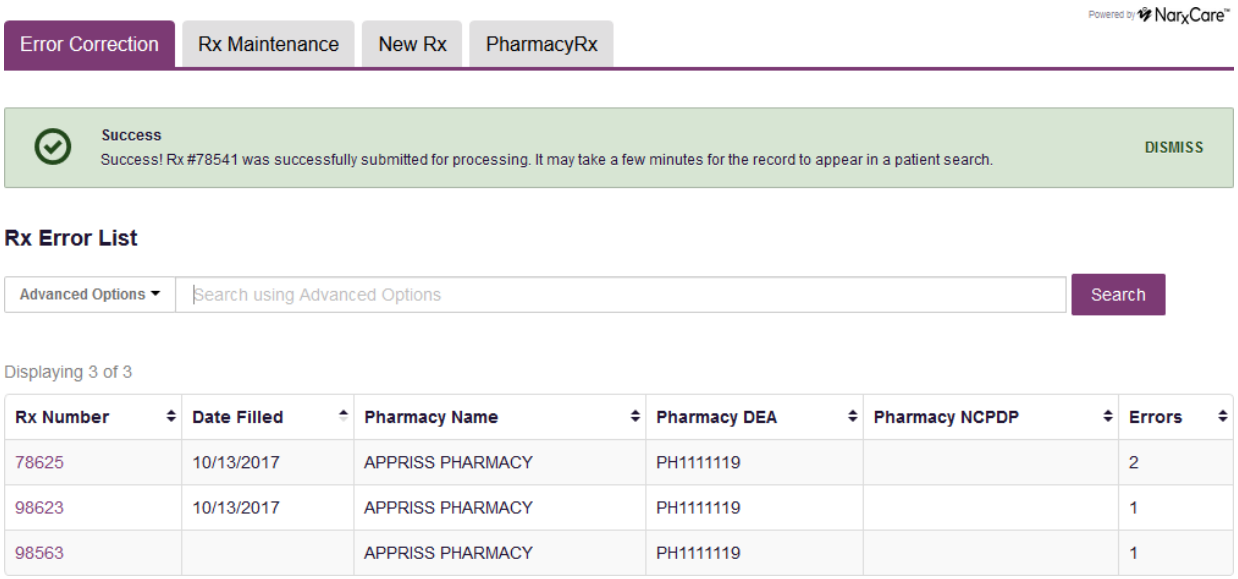
If configured by the administrator, the user will be able to export this list into a .pdf or .csv file by clicking either of the icons next to the "Search" button.



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.


Error Correction
Rx Maintenance
New Rx
PharmacyRx
Rx #78541
Patient
First Name*
TEST
Middle Name
Last Name*
PATIENT
DOB*
01/01/1945
Gender*
Male
Address*
506 W WASHINGTON ST
Address Line 2
City*
LOUISVILLE
State*
Kentucky
Postal Code*
40202
ID Type
Driver's License ID
ID Number
1234567
Phone Number
5026084567
Pharmacy
Pharmacy Name*
APPRISS PHARMACY
Address*
123 MAIN ST
Address Line 2
City*
LYNDON
State*
Kentucky
Postal Code*
40242
Pharmacy DEA #*
PH1111119
Pharmacy NPI #
Pharmacy NCPDP #
Pharmacy Chain Site ID
Permit Number
Contact Name
Contact Phone
5024444444
Prescriber
First Name*
ANOTHER
Middle Name
Last Name*
DOCTOR
Phone Number
5024554555
Address One
Address Two
City
State
Select State
Postal Code
Prescriber DEA #*
AM1111119
Prescriber XDEA #
DEA Suffix
Prescriber NPI #
State License #
Prescription
Prescription Number*
78541
Fill Date*
10/12/2017
Written Date*
10/12/2017
Refills*
0
Authorized Refills*
Authorized refill count value must be present.
Days Supply*
10
Partial Fill
No
Electronic Rx Order #
Electronic Rx Reference #
RxNorm Code Type
RxNorm Code
Rx Serial #
Rx Serial # Issuer
Quantity Prescribed
Payment Type*
Private Pay
Date Sold
mm/dd/yyyy
Rx Transmission Form
Unknown
Directions
Treatment Type
Diagnosis Code (ICD-10)
Drug
NDC Number*
Compound
Quantity*
Units*
00406012301
10.0
Each
Pharmacist
Submit
Cancel

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.



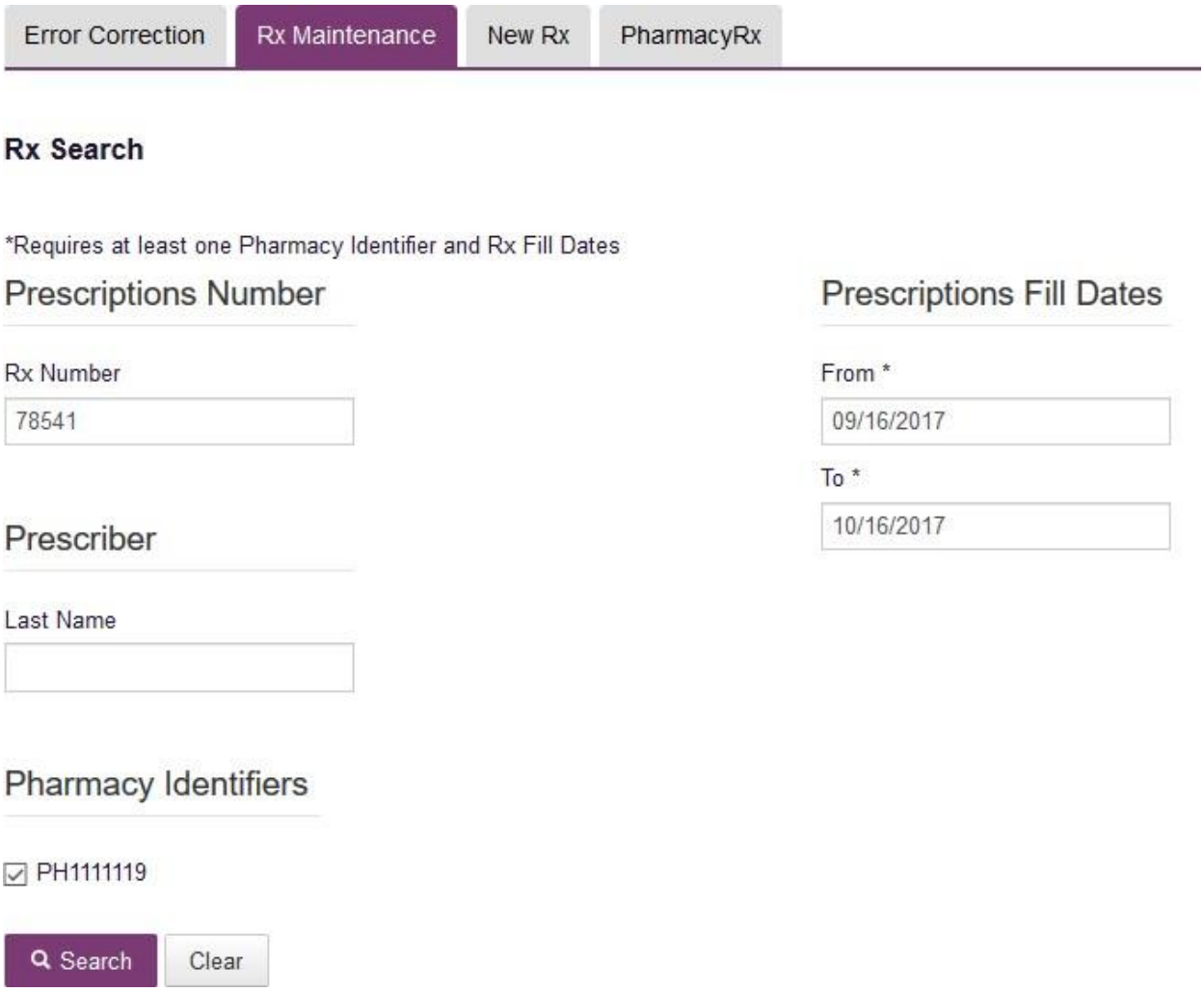
4.2 Rx Maintenance

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.

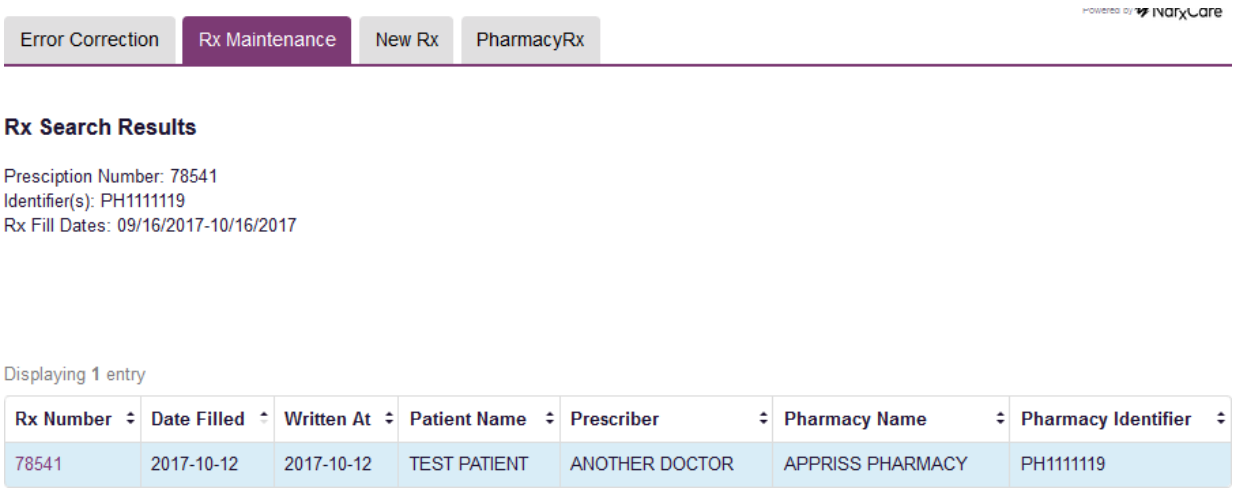
4.2.1 Correcting Prescriptions

To correct inaccurate information on a prescription:

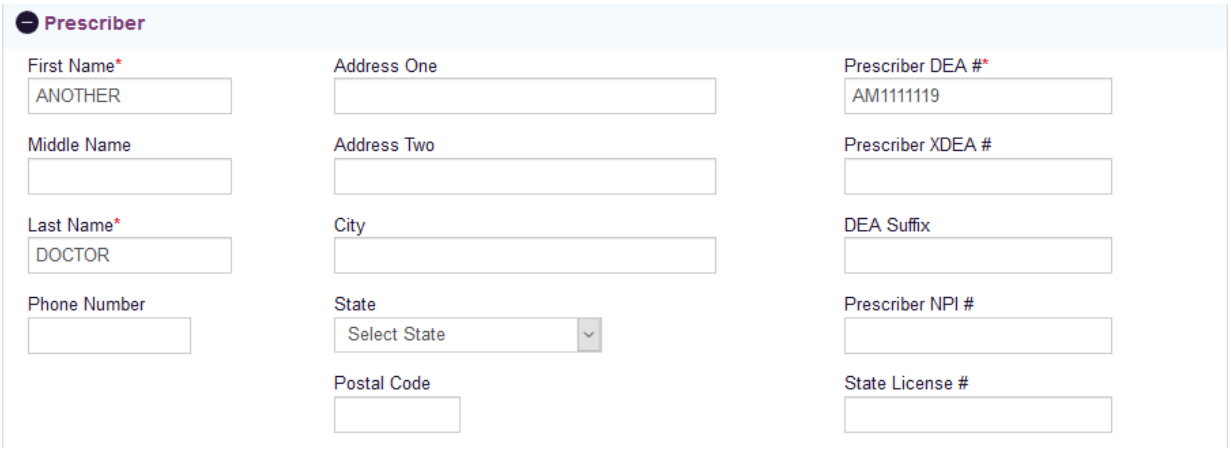
1. Navigate to **Menu > Rx Management >** and click the **Rx Maintenance** tab
2. Enter the search criteria and click search.
    i) Select the appropriate Pharmacy Identifier
    ii) Ensure the fill date range is correct. The default is a month prior to the current date.
    iii) The user can enter 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



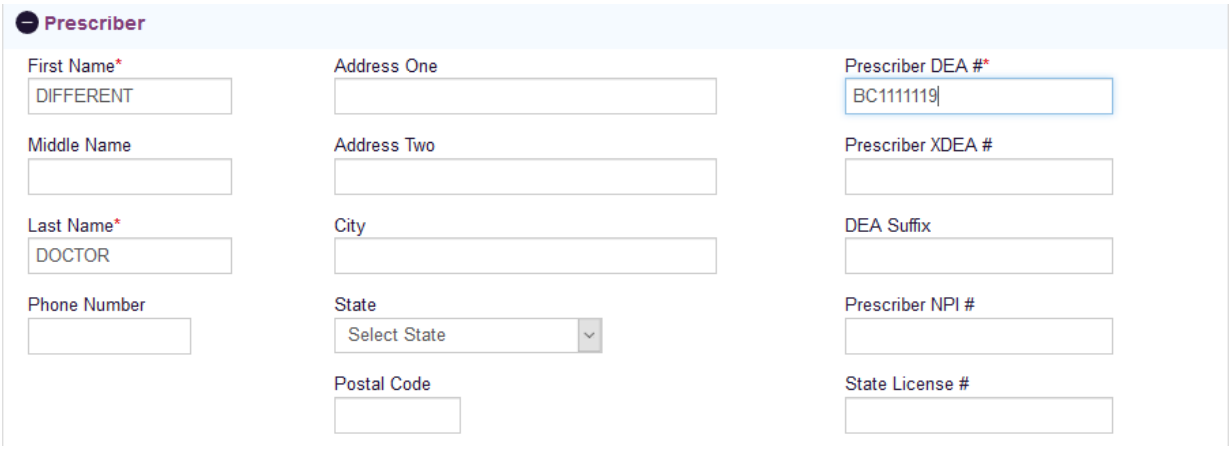
3. The user will then be presented with the results of their search, which will display the prescription number as well as filled and written dates, the patient's name, and prescriber and pharmacy information. Click the prescription number to proceed.



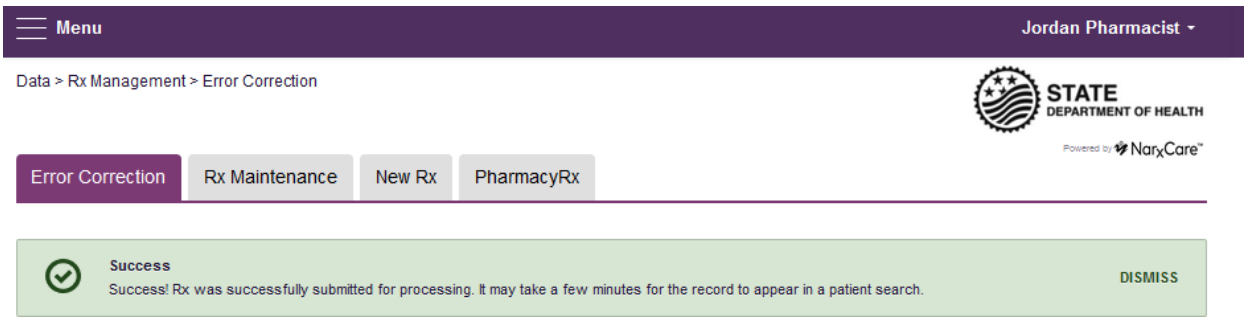
4. Navigate to the appropriate section of the form to make the correction. For this example we will be navigating to the Prescriber section to correct the prescriber information.



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



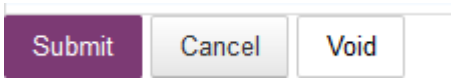
6. The user will receive a successful message indicating the Rx was submitted for processing.



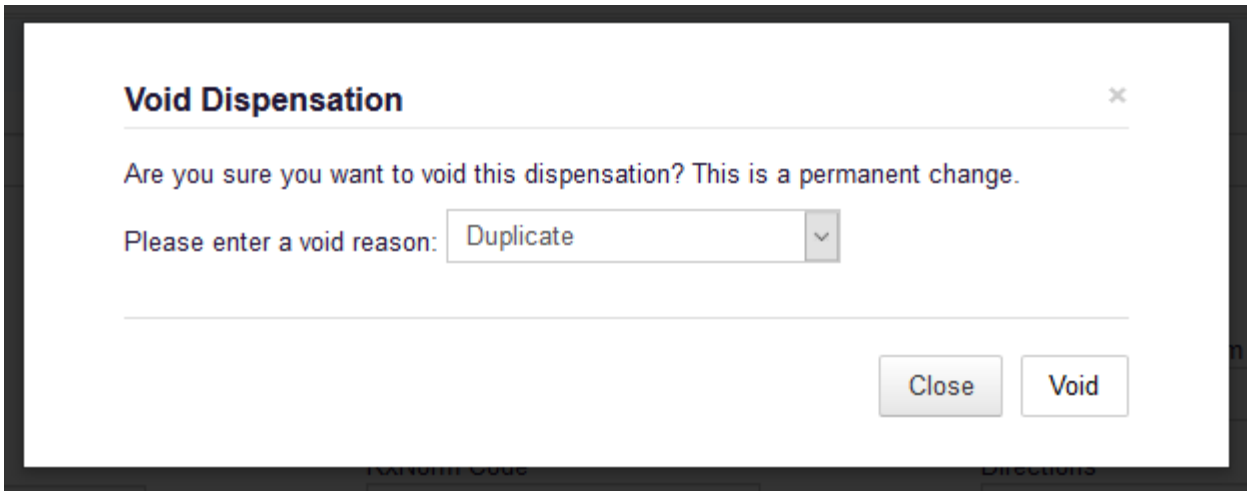
4.2.2 Voiding Prescriptions

To void a prescription:

1. Follow the above steps in section 6.2.1, Correcting Prescriptions, 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.



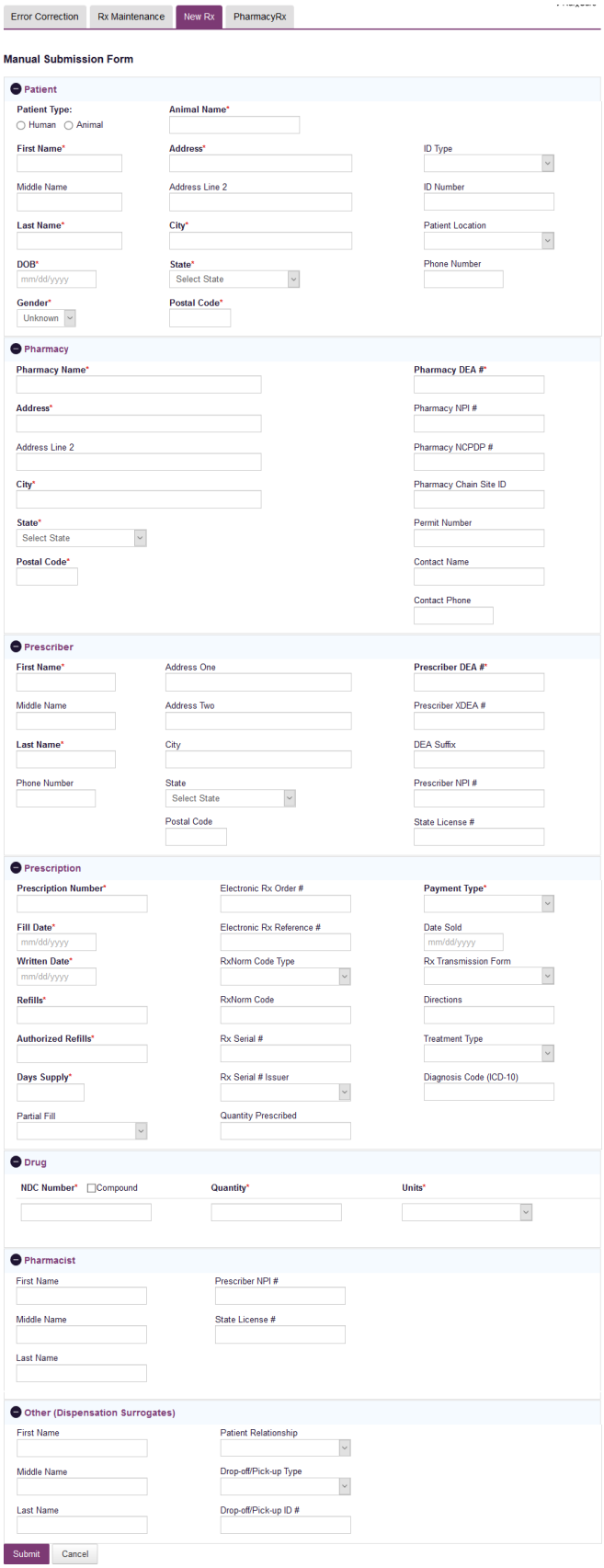
4.3 New Rx

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.


Error Correction
Rx Maintenance
New Rx
PharmacyRx
Manual Submission Form
Patient
Patient Type:
Human
Animal
Animal Name*
First Name*
Address*
ID Type
Middle Name
Address Line 2
ID Number
Last Name*
City*
Patient Location
DOB*
mm/dd/yyyy
State*
Select State
Phone Number
Gender*
Unknown
Postal Code*
Pharmacy
Pharmacy Name*
Pharmacy DEA #*
Address*
Pharmacy NPI #
Address Line 2
Pharmacy NCPDP #
City*
Pharmacy Chain Site ID
State*
Select State
Permit Number
Postal Code*
Contact Name
Contact Phone
Prescriber
First Name*
Address One
Prescriber DEA #*
Middle Name
Address Two
Prescriber XDEA #
Last Name*
City
DEA Suffix
Phone Number
State
Select State
Prescriber NPI #
Postal Code
State License #
Prescription
Prescription Number*
Electronic Rx Order #
Payment Type*
Fill Date*
mm/dd/yyyy
Electronic Rx Reference #
Date Sold
mm/dd/yyyy
Written Date*
mm/dd/yyyy
RxNorm Code Type
Rx Transmission Form
Refills*
RxNorm Code
Directions
Authorized Refills*
Rx Serial #
Treatment Type
Days Supply*
Rx Serial # Issuer
Diagnosis Code (ICD-10)
Partial Fill
Quantity Prescribed
Drug
NDC Number*
Compound
Quantity*
Units*
Pharmacist
First Name
Prescriber NPI #
Middle Name
State License #
Last Name
Other (Dispensation Surrogates)
First Name
Patient Relationship
Middle Name
Drop-off/Pick-up Type
Last Name
Drop-off/Pick-up ID #
Submit
Cancel

5 Assistance and Support

5.1 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.

5.2 Administrative Assistance

If you have non-technical questions regarding the Ohio PDMP AWAR$_x$E 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@pharmacy.ohio.gov

Director of OARRS Chad Garner

6 Document Information

6.1 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.

7 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.

8 Application Interface Overview

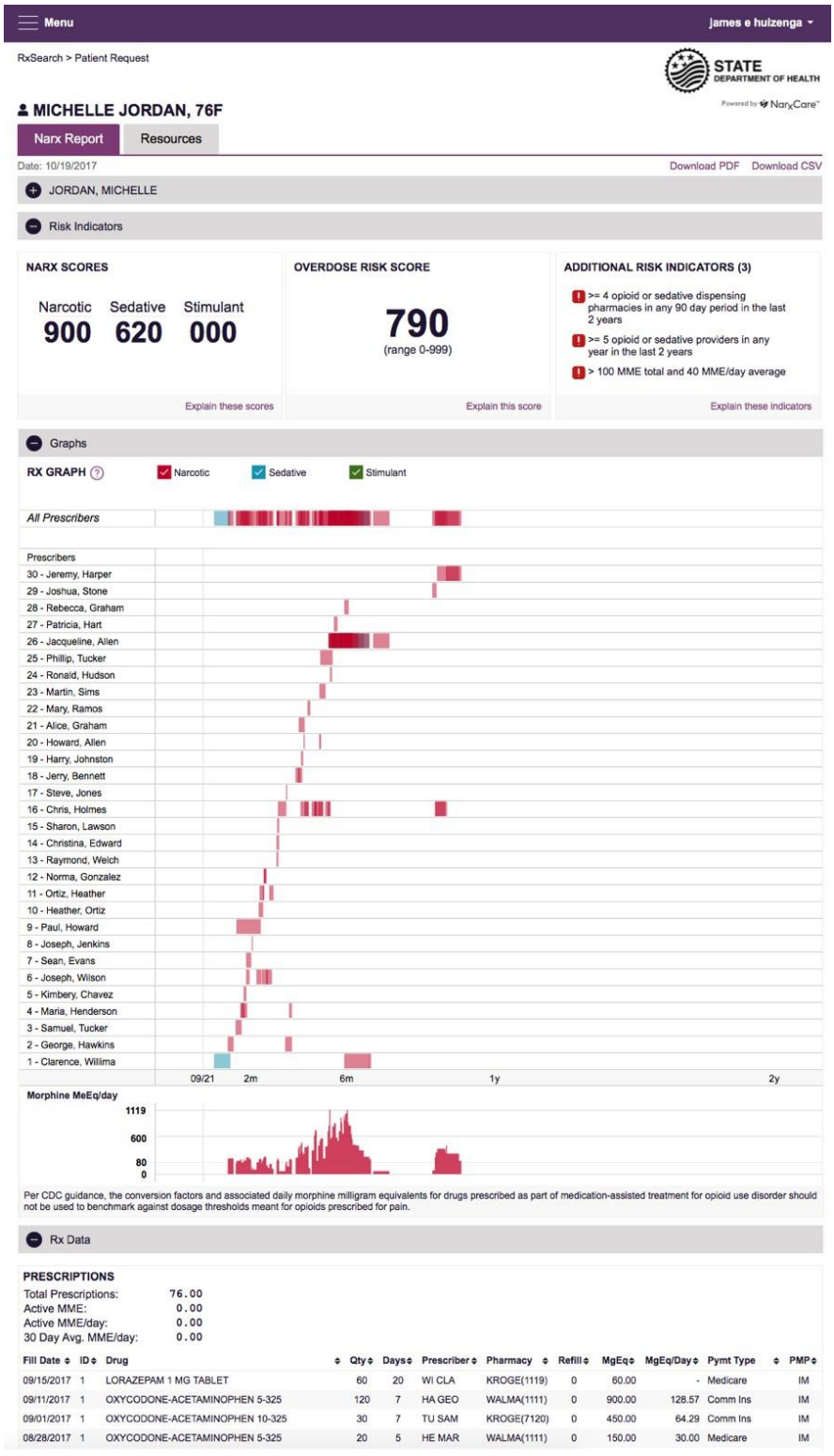
The NarxCare report interface is a modular design with several collapsible segments.

Header

Scores and Indicators

Graphs

Full prescription detail



9 Application Section Detail

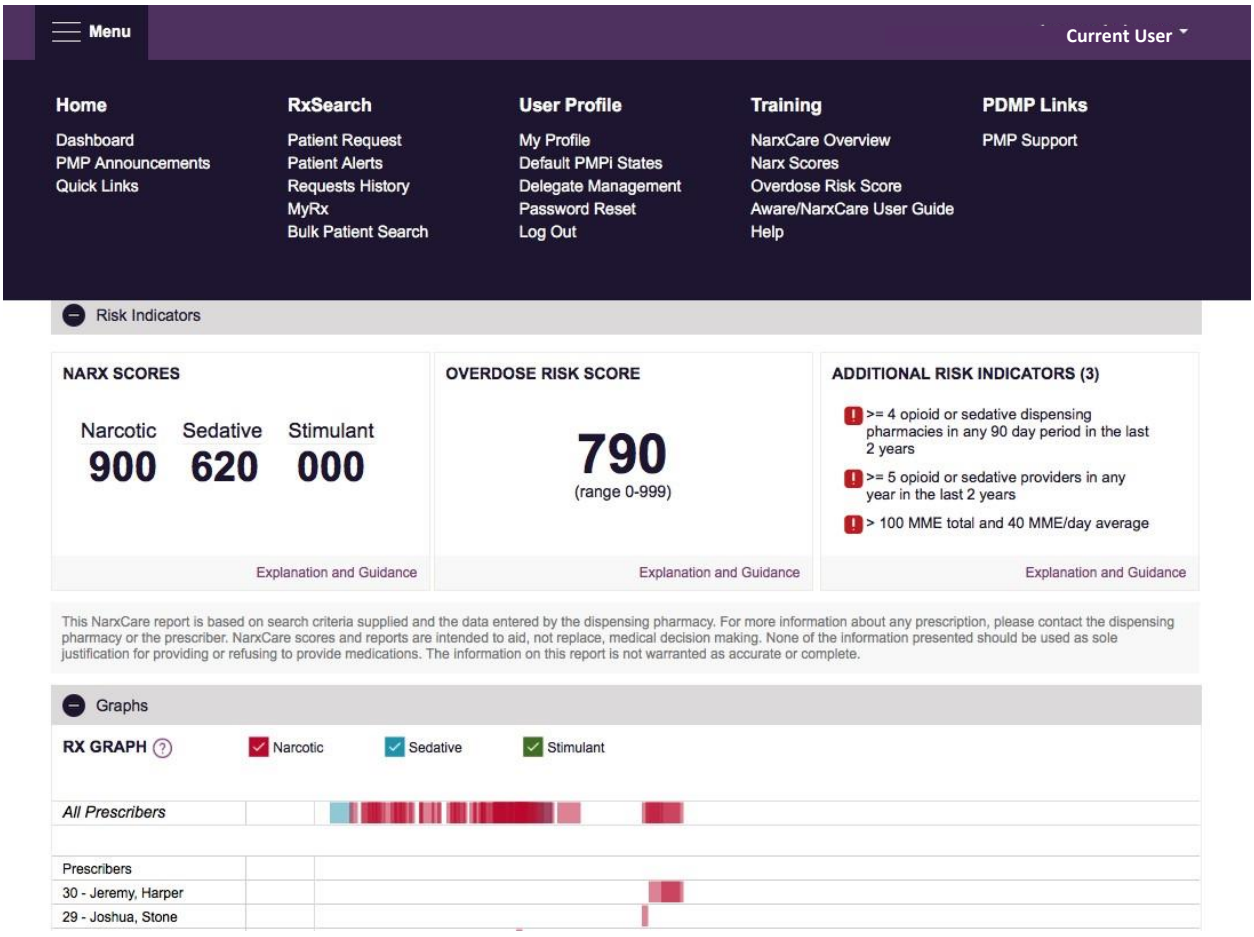
9.1 Header

The Header contains several report and account level controls.

1. Drop down menu bar
2. Patient identifying information
3. Navigation tabs
4. Report downloadlinks

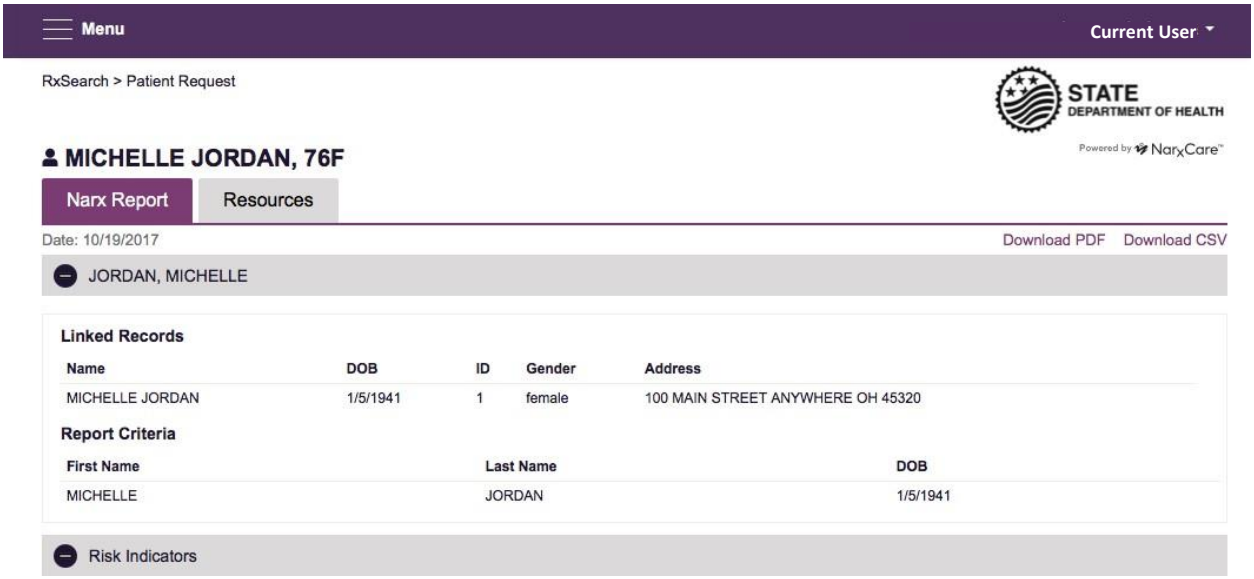
9.1.1 Drop down menu bar

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.



9.1.2 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.



9.1.3 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.

9.1.4 Report download links

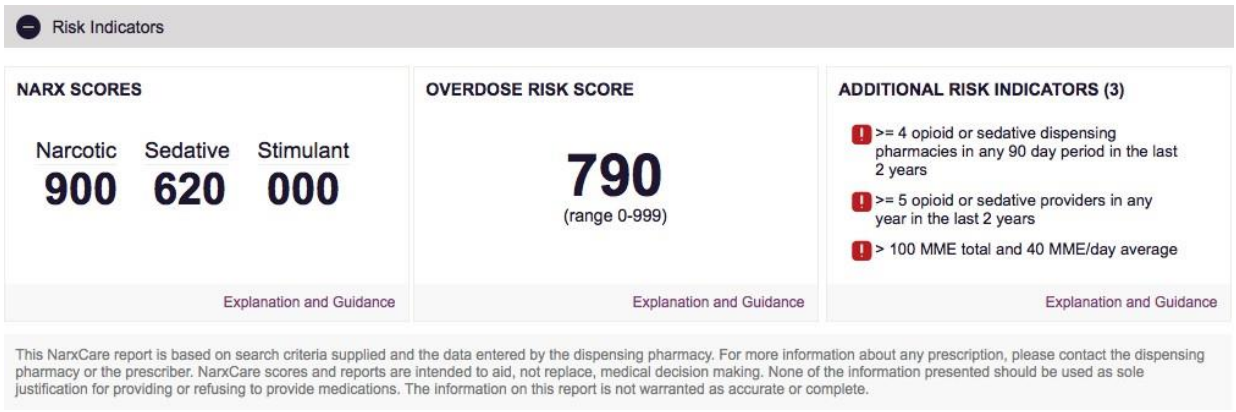
On the right side of the report below the state logo are two download links that allow the user to download a report PDF or a comma separated values (csv) file of the PDMP data.

9.2 Narx Report

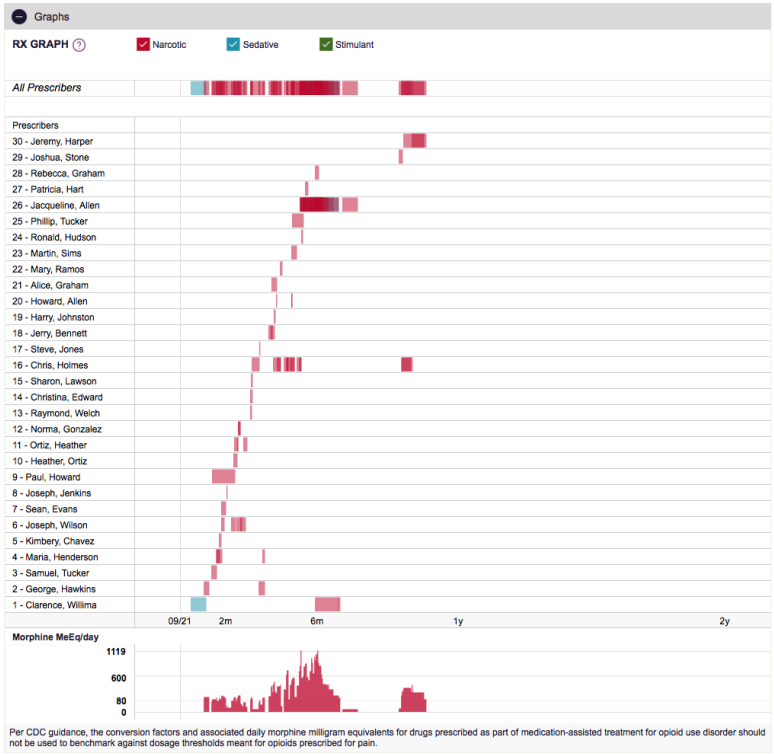
The body of the Narx Report contains several functional areas aimed at rapidly raising awareness of ri sk and prescription use patterns, and when required, individual prescription detail.

9.2.1 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.*



9.2.2 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:

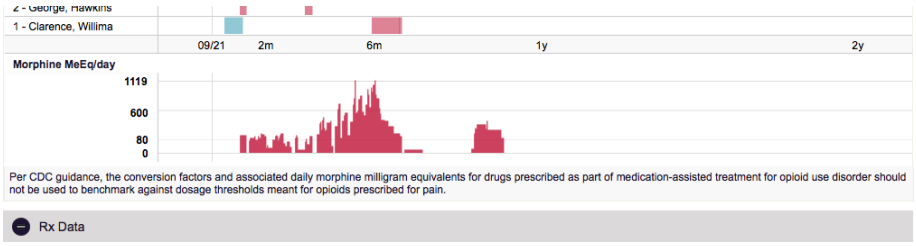
1. Prescriptions are color coded and selectable at the top of the graph:
    a. Narcotics (opioids) = Red
    b. Sedatives (benzodiazepines, sleep aids, etc.) = Blue
    c. Stimulants = Green

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.

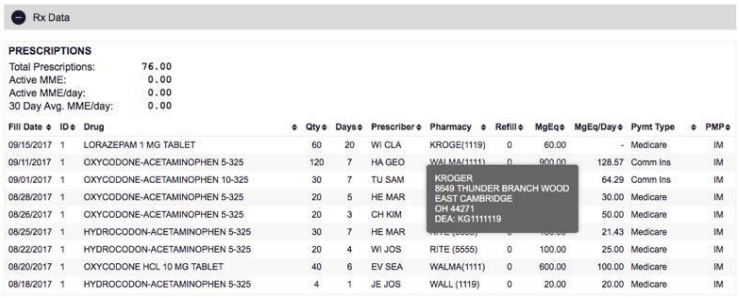
4. The RxGraph is interactive. Prescriptions can be clicked on or dragged over to see greater detail. Providers can also be clicked on to see greater detail.

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 .



9.2.3 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.



Fill Date	ID	Drug	Qty	Days	Prescriber	Pharmacy	Refill	MgEq	MgEq/Day	Pymt Type	PMP
09/15/2017	1	LORAZEPAM 1 MG TABLET	60	20	WI CLA	KROGE(1119)	0	60.00	-	Medicare	IM
09/11/2017	1	OXYCODONE-ACETAMINOPHEN 5-325	120	7	HA GEO	WALMA(1111)	0	900.00	128.57	Comm Ins	IM
09/01/2017	1	OXYCODONE-ACETAMINOPHEN 10-325	30	7	TU SAM	[illegible]	[illegible]	[illegible]	64.29	Comm Ins	IM
08/28/2017	1	OXYCODONE-ACETAMINOPHEN 5-325	20	5	HE MAR	[illegible]	[illegible]	[illegible]	30.00	Medicare	IM
08/26/2017	1	OXYCODONE-ACETAMINOPHEN 5-325	20	3	CH KIM	[illegible]	[illegible]	[illegible]	50.00	Medicare	IM
08/25/2017	1	HYDROCODON-ACETAMINOPHEN 5-325	30	7	HE MAR	[illegible]	[illegible]	[illegible]	21.43	Medicare	IM
08/22/2017	1	HYDROCODON-ACETAMINOPHEN 5-325	20	4	WI JOS	RITE (5555)	0	100.00	25.00	Medicare	IM
08/20/2017	1	OXYCODONE HCL 10 MG TABLET	40	6	EV SEA	WALMA(1111)	0	600.00	100.00	Medicare	IM
08/18/2017	1	HYDROCODON-ACETAMINOPHEN 5-325	4	1	JE JOS	WALL (1119)	0	20.00	20.00	Medicare	IM

9.2.4 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	OH	44879	AG5511111
CHRIS, HOLMES	5805 GREEN TURNABOUT	FREDERICK	OH	45270	CH5511111
CHRISTINA, EDWARDS	9912 DUSTY BARN RANGE	MAHONING	OH	45152	CE5511111
CLARENCE, WILLIMASON	4256 NOBLE FOREST WALK	CHASE	OH	43129	CW5511111
GEORGE, HAWKINS	7728 QUIET EXT	FISHER	OH	43897	GH5511111
HARRY, JOHNSTON	4618 HAZY WILLOW LEDGE	HOPE	OH	45614	HJ5511111

PHARMACIES
Total Pharmacies: 11

Name	Address	City	State	Zipcode	DEA
CVS	2890 COLONIAL AVE	DAYTON	OH	45419	CV5555555
CVS	4322 GENTLE DALE PIKE	POST BOY	OH	43062	CV5511111
KERR	808 SLEEPY QUAIL DELL	RICHFIELD	OH	44829	KR0017120
KERR	7731 STONY MANOR	BUTLER	OH	44436	KE1111119
KROGER	8649 THUNDER BRANCH WOOD	EAST CAMBRIDGE	OH	44271	KG1111119
KROGER	6518 HAZY FOX HARBOUR	GEYER	OH	44168	KK0017120

9.3 Resources

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

9.3.1 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.

9.3.2 CDC documents

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

Access to Treatment

Mat Providers

Find the 30 closest MAT providers for this patient. The patient's zip code is prep-populated if available. View more information about the treatment locator.

Search for providers near:

Zip Code

45320

Submit

Educational Resources

INFORMATIONAL DOCUMENTS

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

What You Need to Know

Opioids and Chronic Pain

Pregnancy and Opioids

Narx Scores

9.4 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 last digit of each Score represents the number of active prescriptions of that type. For example, a Narcotic Score of 504 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**.

9.5 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.

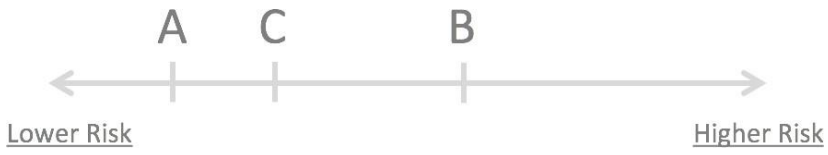
A single point measurement of total MME in the last 60 days can be used to illustrate this concept further using the following three patients:

Patient A: 160 MME

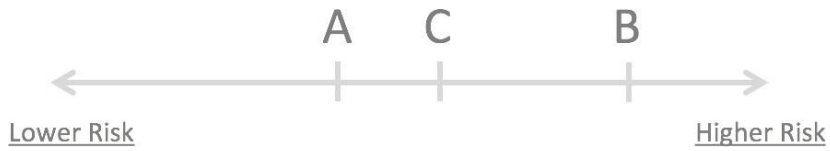
Patient B: 4800 MME

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.

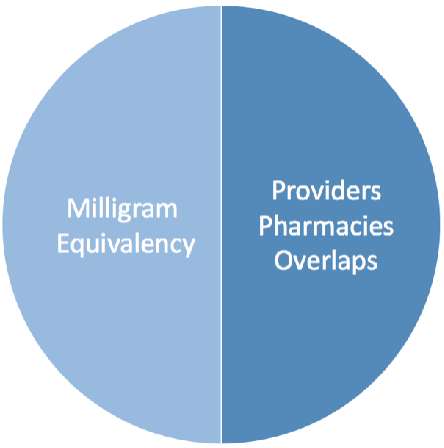
Prescribers	2mo Scaled	6mo Scaled	1yr Scaled	2yr Scaled
0	0	0	0	0
1	19	12	8	6
2	36	22	16	11
3	51	32	23	16
4	64	41	30	21
5	75	49	37	26
6	85	57	43	30
And so on …				

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	Behaviors	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 always 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)	63
						Number of Active Narcotic Prescriptions	2
						Narcotic Score	**632**

9.6 Clinical Application

In work-flow use

Narx Scores are intended to be delivered into workflow automaticallyas 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 forreview.
- 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:
    - 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:
    - 75% of patients score below 200
    - 5% of patients score above 500
    - 1% of patients score above 650
    -

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:

Narcotic	Sedative	Stimulant
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 reviewof 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:

Narcotic	Sedative	Stimulant
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:

Narcotic	Sedative	Stimulant
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	**Notes**	**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 in this range.	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.

10 Overdose Risk Score

10.1 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**

10.2 ORS Algorithm

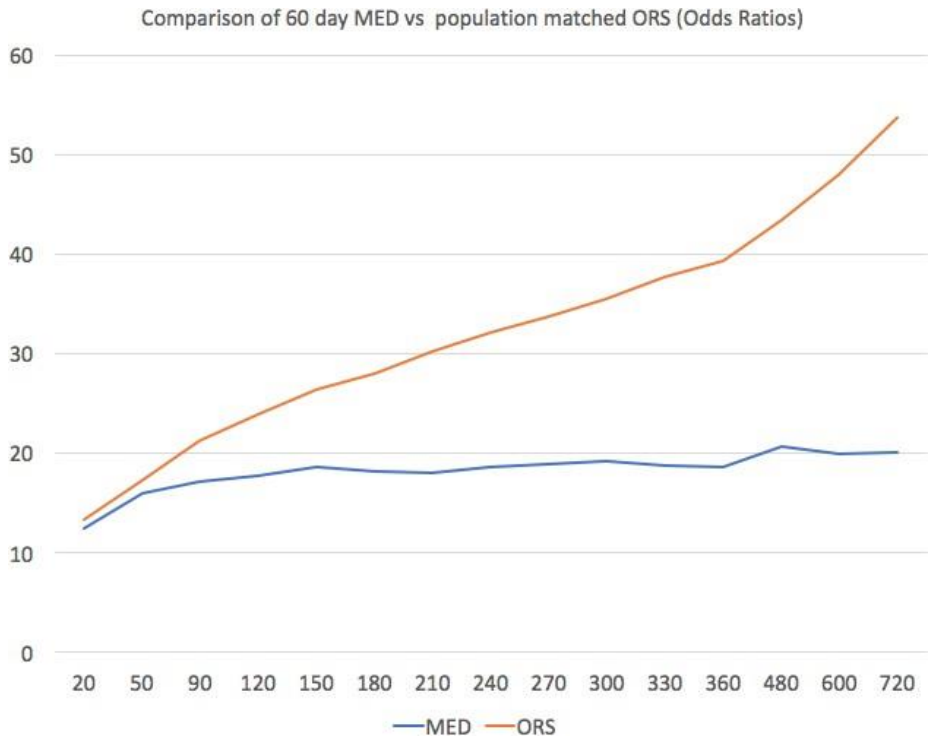
The ORS algorithm was derived using machine learning and other predictive techniques applied to a large case series of over 5,000 unintentional overdose deaths. For the first version of the score, more than 70 PDMP variables were evaluated with 12 chosen for the final model. Subsequent revisions of the 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 specifi c 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.

10.3 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.

Score	Approximate CDC MED Equivalent	Guidance*
< 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 andtreatment.

11 Additional Risk Indicators

11.1 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.

11.2 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 routinelyavailable, 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 app ropriate medical care options that are in the best interest of the patient.

Indicator Based Guidance

Indicator	**Guidance***
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.