Maximizing the Wisconsin Prescription Drug Monitoring Program through Analytics and User-Led Enhancements

Harold Rogers National Meeting
June 27, 2019
Agenda

1. WI PDMP Background
2. User-Led Enhancements
   - Methods
   - Enhancements
3. Analytics
   - Patient Matching
   - Data Validation
   - Prescribing Practice Metrics
Wisconsin’s PDMP

Department of Safety and Professional Services

- Controlled Substance Board
- Related Boards: Medical, Pharmacy, Nursing, Dentistry, Optometry, Podiatry
- Credentialing and Licensing
- Division of Legal Services and Compliance
- PDMP operational since 2013

WI ePDMP

- Data for controlled substances in schedules II-V dispensed in WI
- 2,000 dispenser submitters
- 9 million records per year
- Over 55,000 healthcare users
- 650,000 patient queries per month
- Prescriber requirement to query before issuing controlled substance prescription
Wisconsin’s PDMP

- Enhanced system launched January 2017
- Custom .net application
- Streamlined navigation based on user feedback
- Visualizations and analytics of patient data
  - Concerning patient history alerts
  - Prescriber Metrics
  - Public Statistics Dashboard
# WI ePDMP Components

| Clinical Decision Support Tool | • Patient Prescription Histories  
|                               | • Prescribing, Treatment, Dispensing Decision Support |
| Interdisciplinary Communication Tool | • Law Enforcement Alerts  
|                                     | • Law Enforcement Investigations |
| Prescribing Practice Assessment Tool | • Prescriber Metrics Report  
|                                      | • Medical Coordinator Access |
| Public Health Tool | • Interactive Statistics Dashboard  
|                     | • Dispensing Data Trends (State- and County- Level) |
User-Led Enhancements
2017 HR Grant Timeline

- **October 2017**: Grant period began

- **2018**: User feedback obtained

- **April 2019**: RxCheck connection established (2018 HR Grant)

- **February 2019**: Patient search enhancements

- **May 2019**: Prescriber metrics improvements

- **2019**: Development of user-led enhancements (3 releases)
Gathering Feedback

In-Person
- Stakeholder roundtables
- 9 events (March 2018-January 2019)
- Locations throughout WI
- Interdisciplinary
  - Healthcare
  - Law Enforcement
  - Public Health

Surveys
- Online user survey (April 2018)
- 30,000 survey recipients
- Over 6,000 responses (20% response rate)
- Variety of healthcare professions represented
- User satisfaction (77% “satisfied” or “very satisfied”)
- Identification of enhancements
Gathering Feedback

Focus Groups

- Online focus groups (January 2019)
- 1,480 survey recipients
- 320 responses (21% response rate)
- Variety of healthcare professions represented
- Prioritization of identified enhancements
- Identification of SMEs (35) to provide feedback on prototypes
  - Physician, APNP, PA, Pharmacist, Delegate
<table>
<thead>
<tr>
<th>Scheduled Enhancements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>User Management</strong></td>
</tr>
<tr>
<td>- Edit username</td>
</tr>
<tr>
<td>- Annual T&amp;C review</td>
</tr>
<tr>
<td>- Annual delegate review</td>
</tr>
<tr>
<td>- Annual Medical</td>
</tr>
<tr>
<td>Coordinator/prescriber</td>
</tr>
<tr>
<td>linkage review</td>
</tr>
<tr>
<td><strong>Pharmacy</strong></td>
</tr>
<tr>
<td>- Improved record</td>
</tr>
<tr>
<td>identification for</td>
</tr>
<tr>
<td>revise/void</td>
</tr>
<tr>
<td>- Improved PDMP admin</td>
</tr>
<tr>
<td>access for submission</td>
</tr>
<tr>
<td>troubleshooting</td>
</tr>
<tr>
<td><strong>New Design</strong></td>
</tr>
<tr>
<td>- Patient Report</td>
</tr>
<tr>
<td>improvements to</td>
</tr>
<tr>
<td>maximize space and</td>
</tr>
<tr>
<td>reduce scrolling</td>
</tr>
<tr>
<td>- Proactive MME calculator</td>
</tr>
<tr>
<td>- Additional overdose</td>
</tr>
<tr>
<td>alerts/naloxone</td>
</tr>
<tr>
<td>administration indicator</td>
</tr>
<tr>
<td>- Additional data elements</td>
</tr>
<tr>
<td>on Patients Panel</td>
</tr>
<tr>
<td>- Patients Panel available</td>
</tr>
<tr>
<td>to Delegates</td>
</tr>
</tbody>
</table>
Patients Panel Improvements

Available to delegates based on patients previously searched

Exportable for further manipulation

Additional fields:
- Date of last dispensing
- Dispensing counts by drug class

<table>
<thead>
<tr>
<th>Patient Info</th>
<th>Alerts</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Name</td>
<td>First Name</td>
<td>Date Of Birth</td>
</tr>
<tr>
<td>HOLMES</td>
<td>SHERLOCK</td>
<td>01/06/1954</td>
</tr>
<tr>
<td>TWO</td>
<td>TESTPATIENT</td>
<td>12/31/1980</td>
</tr>
</tbody>
</table>

Cancel
Patient Report Improvements

Maximize space, reduce scrolling
- Expand/collapse
- Default load based on dispensings
According to the CDC, calculating the total daily dose of opioids helps identify patients who may benefit from measures to reduce risk of overdose. Concurrent use of benzodiazepines and opioids can place an individual at an increased risk for severe respiratory distress that can lead to overdose death. On the chart below, the line indicates the patient's cumulative daily dose of opioids and the red shading indicates when the patient had concurrent opioid and benzodiazepine prescriptions.

Maximize space, reduce scrolling
- Expand/collapse
- Default load based on dispensings
Dispensing Detail Improvements

Highlight available states

Highlight relevant dispensings
- Active
- Early refill

<table>
<thead>
<tr>
<th>Drug Details</th>
<th>Drug Class</th>
<th>Drug Qty</th>
<th>Rx Dates</th>
<th>Prescriber</th>
<th>Dispenser</th>
<th>Patient</th>
<th>Patient Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonazepam 0.5MG / Tablet Rx# 111</td>
<td>Benzodiazepine</td>
<td>Qty: 30 Days: 30 Refills: 0</td>
<td>Prescribed: 5/1/2018 Dispensed: 5/1/2018</td>
<td>SMITH, JOE 10 1ST AVE ANYTOWN WI 54321</td>
<td>XYZ PHARMACY 123 MAIN ST, ANYTOWN WI 54321</td>
<td>HOLMES, SHERLOCK DOB: 1/6/1954</td>
<td>1400 E WASHINGTON AVE MADISON WI, 53703 Pay Type: Commercial Insurance</td>
</tr>
<tr>
<td>Hydrocodone-Acetaminophen 10MG / Tablet Rx# TEST123</td>
<td>Opioid</td>
<td>Qty: 10 Days: 10 Refills: 0</td>
<td>Prescribed: 11/14/2015 Dispensed: 11/14/2015</td>
<td>JONES, JOHN 543 MAIN AVE ANYTOWN WI 54321</td>
<td>XYZ PHARMACY 123 MAIN ST, ANYTOWN WI 54321</td>
<td>HOLMES, SHERLOCK DOB: 1/6/1954</td>
<td>1400 E WASHINGTON AVE MADISON WI, 53703 Pay Type: Commercial Insurance</td>
</tr>
<tr>
<td>Clonazepam 0.5MG / Tablet Rx# 222</td>
<td>Benzodiazepine</td>
<td>Qty: 30 Days: 30 Refills: 0</td>
<td>Prescribed: 4/1/2016 Dispensed: 4/1/2018</td>
<td>SMITH, JOE 1 1ST AVE ANYTOWN WI 54321</td>
<td>XYZ PHARMACY 123 MAIN ST, ANYTOWN WI 54321</td>
<td>HOLMES, SHERLOCK DOB: 1/6/1954</td>
<td>1400 E WASHINGTON AVE MADISON WI, 53703 Pay Type: Commercial Insurance</td>
</tr>
<tr>
<td>Clonazepam 0.5MG / Tablet Rx# 222</td>
<td>Benzodiazepine</td>
<td>Qty: 30 Days: 30 Refills: 0</td>
<td>Prescribed: 4/1/2016 Dispensed: 4/1/2018</td>
<td>SMITH, JOE 1 1ST AVE ANYTOWN WI 54321</td>
<td>XYZ PHARMACY 123 MAIN ST, ANYTOWN WI 54321</td>
<td>HOLMES, SHERLOCK DOB: 1/6/1954</td>
<td>1400 E WASHINGTON AVE MADISON WI, 53703 Pay Type: Commercial Insurance</td>
</tr>
<tr>
<td>Amphetamine-Dextroamphetamine 30MG / Capsule Extended Release 24 Hour Rx# 3023848</td>
<td>Stimulant</td>
<td>Qty: 30 Days: 30 Refills: 0</td>
<td>Prescribed: 12/1/2017 Dispensed: 12/3/2017</td>
<td>SMITH, JOE 1 1ST AVE ANYTOWN WI 54321</td>
<td>XYZ PHARMACY 123 MAIN ST, ANYTOWN WI 54321</td>
<td>HOLMES, SHERLOCK DOB: 1/6/1954</td>
<td>1400 E WASHINGTON AVE MADISON WI, 53703 Pay Type: Commercial Insurance</td>
</tr>
</tbody>
</table>
WI ePDMP Analytics
Data Quality Efforts

• Increased data validation in 2017 with implementation of WI ePDMP

• Additional submission validations to be put in place with 2019 enhancements
  – Date fields
  – Quantity
  – Days Supply
  – Partial fill

• Data transparency in dispensing history
  – Display of Date Sold when provided
  – Display of MME value

• Patient search/patient matching efforts
  – Better accommodate names with hyphens, punctuation, spaces on search
  – Next steps: mechanism to manually join/separate patient records (twins automatically joined)

• Metrics calculation validations
  – Peer percentile
Prescriber Metrics

Effective May 30th, 2019, an improved calculation has been implemented for determining peer percentiles. Note that this update may limit the ability to compare Prescribing Practice Metrics retrieved from the WI ePDMP prior to May 30th, 2019 with metrics using the updated calculation.

**Daily Prescribing Volume Ranking**

The charts below display individual prescriber metrics for the last 100 days compared to other prescribers within the same specialty.

- **Opioid**
  - Prescription Orders: 115
  - Percentile: 85%

- **Benzodiazepine**
  - Prescription Orders: 1
  - Percentile: 71%

- **Stimulant**
  - Prescription Orders: 0
  - Percentile: 0%

- **Other Controlled Substance**
  - Prescription Orders: 20
  - Percentile: 59%

- **Opioids**
  - Average Doses per Prescription: 67.82
  - Percentile: 70%

- **Benzodiazepine**
  - Average Doses per Prescription: 1.00
  - Percentile: 65%

- **Stimulant**
  - Average Doses per Prescription: 0.00
  - Percentile: 0%

- **Other**
  - Average Doses per Prescription: 89.00
  - Percentile: 85%

**Prescriptions by Payment Type**

- Commercial Insurance
- Medicaid
- Medicare
- Private Pay
- Military Installations and VA
- Workers' Compensation
- Indian Nations
- Other
Average Distance Travelled

Average Distance Travelled By Patient

Average distance travelled by Patients: **30.72 miles**
**Concerning Patient History Alerts**
Generated during the past 100 days

1. Patients with Concurrent Benzodiazepine and Opioid Prescriptions
2. Patients with Multiple Prescribers or Pharmacies
3. Patients with Early Refill
4. Patients with High Current Daily Dose of Opioids
5. Patients with Long-Term Opioid Therapy with Multiple Prescribers
6. Patients with Multiple Same-Day Prescription or Dispensing Events

**Law Enforcement Alerts**
Reported during the past 100 days

0. Patients with Suspected Non-Fatal Opioid-Related Drug Overdose
1. Patients with Suspected Fatal Narcotic Overdose
0. Patients with Report of a Stolen Controlled Substance Prescription
0. Patients with Suspected Violation of the Controlled Substances Act involving Rx Drugs

**Summary of ePDMP Usage**
Based on usage since 9/11/2017

- 60 Queries by User
- 90 Queries completed by Delegates
- 191 Prescription Orders Written (excluding orders for 3-day supply or less)
- 85% Estimated ePDMP Usage Compliance Rate

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### USE NON-OPIOID TREATMENT
Opioids are not first-line or routine therapy for chronic pain

In a systematic review, opioids did not differ from non-opioid medication in pain reduction, and non-opioid medications were better tolerated, with greater improvements in physical function.

### REVIEW PDMP
Check PDMP for high dosages and prescriptions from other providers

A study showed patients with one or more risk factors (4 or more prescribers, 4 or more pharmacies, or dosage >100 MME/day) accounted for 55% of all overdose deaths.

### OFFER TREATMENT FOR OPIOID USE
Offer or arrange evidence-based treatment for patients with opioid use disorder (e.g., medication-assisted treatment and behavioral therapies)

### START LOW AND GO SLOW
When opioids are started, prescribe them at the lowest effective dose

### AVOID CONCURRENT PRESCRIBING
Avoid prescribing opioids and benzodiazepines concurrently whenever possible
### Dispensing Detail for Prescriber

<table>
<thead>
<tr>
<th>Drug Details</th>
<th>Drug Class</th>
<th>Drug Qty</th>
<th>Rx Dates</th>
<th>Prescriber</th>
<th>Dispenser</th>
<th>Patient</th>
<th>Patient Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocodone-Acetaminophen</td>
<td>Opioid</td>
<td>Qty: 60</td>
<td>Prescribed: 12/15/2018</td>
<td>SMITH, JOHN</td>
<td>XYZ PHARMACY 456 2nd ST</td>
<td>PATIENT1, TEST1</td>
<td>600 5th St ANYTOWN, WI Pay Type: Commercial Insurance</td>
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<tr>
<td>5-325MG / Tablet Rx# 98765</td>
<td></td>
<td>Days: 30</td>
<td>Dispensed: 12/15/2018</td>
<td>123 MAIN ANYTOWN, WI</td>
<td>ANYTOWN, WI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocodone-Acetaminophen</td>
<td>Opioid</td>
<td>Qty: 60</td>
<td>Prescribed: 11/10/2018</td>
<td>SMITH, JOHN</td>
<td>ABC PHARMACY 123 LAKE ST</td>
<td>PATIENT5, TEST5</td>
<td>1200 Main St Milwaukee, WI Pay Type: Medicaid</td>
</tr>
<tr>
<td>5-325MG / Tablet Rx# 54321</td>
<td></td>
<td>Days: 30</td>
<td>Dispensed: 11/12/2018</td>
<td>123 MAIN ANYTOWN, WI</td>
<td>MILWAUKEE, WI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lorazepam</td>
<td>Benzodiazepine</td>
<td>Qty: 30</td>
<td>Prescribed: 11/10/2018</td>
<td>SMITH, JOHN</td>
<td>123 PHARMACY 1000 12th Ave</td>
<td>PATIENT9, TEST9</td>
<td>206 8th Ave BROOKFIELD, WI Pay Type: Commercial Insurance</td>
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<tr>
<td>0.5MG/Tablet Rx# 123456</td>
<td></td>
<td>Days: 30</td>
<td>Dispensed: 11/12/2018</td>
<td>123 MAIN ANYTOWN, WI</td>
<td>BROOKFIELD, WI</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Medical Coordinator Metrics Summary**

**Metrics**
- Based on last 100 days
- WI prescribers of the same self reported specialty

**Prescriber List**
- Status of request
- Prescriber Detail
- Summary of Opioids (csv. export includes benzo and stimulants)
- Patient Alerts (csv. export includes additional alert types)
- Estimated PDMP Usage

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### Prescribing Practice Metrics Summary

Prescribing metrics data is based on the last 100 days of dispensing information in the WI ePDMP. See the Additional Detail on Prescriber Metrics Data at the bottom of the page for definitions of the data provided.

#### Prescriber List

<table>
<thead>
<tr>
<th>Prescriber Detail</th>
<th>Prescriber Name</th>
<th>Employer</th>
<th>Specialty</th>
<th>Metrics</th>
<th>Opioid Orders</th>
<th>Peer % Orders</th>
<th>Avg. Opioid Doses</th>
<th>Peer % Doses</th>
<th>Opioid-Benzo Overlap</th>
<th>High Daily MME</th>
<th>Long-Term Opioid</th>
<th>PDMP Usage</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved</td>
<td>MB00000001</td>
<td>Name, Sample1</td>
<td>Health Clinic1</td>
<td>Family Practice</td>
<td>100</td>
<td>60</td>
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<td>40</td>
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<tr>
<td>Approved</td>
<td>MC00000002</td>
<td>Name, Sample1</td>
<td>Health Clinic1</td>
<td>Pain Management</td>
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<td>Remove</td>
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<tr>
<td>Denied</td>
<td>MS00000004</td>
<td>Name, Sample1</td>
<td>Health Clinic1</td>
<td>Family Practice</td>
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<td>0</td>
<td>0</td>
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<td>Remove</td>
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<td>0</td>
<td>0</td>
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</tbody>
</table>
WI ePDMP
Statistics Dashboard

https://pdmp.wi.gov/statistics
For More Information

Andrea Magermans
Managing Director

pdmp@wisconsin.gov

Website: https://pdmp.wi.gov/