



Controlled Substances Board



WISCONSIN | **ePDMP**

Report 3

January 1 – December 31, 2017

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Introduction

The Wisconsin Prescription Drug Monitoring Program (PDMP) was deployed in June 2013. It is administered by the Wisconsin Department of Safety and Professional Services (DPS) pursuant to the regulations and policies established by the Wisconsin Controlled Substances Board (CSB). Since being deployed, the PDMP primarily has been a tool to help healthcare professionals make more informed decisions about prescribing and dispensing controlled substance prescription drugs to patients. It also discloses data as authorized by law to governmental and law enforcement agencies.

On January 17, 2017, DPS launched the enhanced PDMP (WI ePDMP) system. The enhanced design has allowed the WI ePDMP to become a multi-faceted tool in Wisconsin's efforts to address prescription drug abuse, misuse, and diversion through clinical decision support, prescribing practice assessment, communication among disciplines, and public health surveillance. In the second half of 2017, the WI ePDMP was invited by the National Alliance of Model State Drug Laws (NAMSDL) to present at the PDMP Briefing to the Congressional Caucus on Prescription Drug Abuse as an example of the "PDMP of the Future" containing all the components of a strong PDMP. DPS was further recognized for the WI ePDMP by the Center for Digital Government and was awarded a Government Experience Award in the Government-to-Business Experience category. In November, DPS was invited to testify before the U.S. Senate Committee on Health, Labor, Education, and Pensions about the WI ePDMP as part of Wisconsin's efforts to address the opioid crisis.

In October 2017, DPS launched the WI ePDMP Public Statistics Dashboard, which provides interactive data visualizations about the controlled substance prescriptions dispensed in Wisconsin, the law enforcement reports submitted to the WI ePDMP, and the use of the WI ePDMP by healthcare professionals and others. Many of the data visualizations from the Public Statistics Dashboard have been incorporated into this report, and additional information about PDMP-related statistics, including county-level detail about many of the charts, can be found on the Public Statistics Dashboard. The Dashboard was the product of a 2014 Harold Rogers grant from the U.S. Department of Justice Bureau of Justice Assistance, and DPS was awarded a 2017 Harold Rogers grant to continue to enhance the WI ePDMP based on user feedback.

At the end of December 2017, the PDMP stored a total of over 50 million prescription records submitted by over 2,000 pharmacies and dispensing practitioners. Between January 17, 2017, and December 31, 2017, over 42,000 registered prescribers, pharmacists, and their delegates performed over 6 million queries for patient prescription reports. The number of queries performed by healthcare users per day has risen significantly, with an average of over 19,000 queries performed each day between October 1 and December 31, 2017, up from an average of approximately 6,800 queries performed per day during the first quarter of 2017, prior to the requirement for prescribers to review PDMP records before writing controlled-substance prescription orders went into effect on April 1, 2017, pursuant to 2015 Wisconsin Act 266.

Pursuant to ss. 961.385 (5) – (6), Wis. Stats., the CSB is required to submit a report to DSPS about the PDMP. This report is intended to satisfy that requirement. Significant resources were dedicated in 2017 to the development of the WI ePDMP, which is still in active development, and the Public Statistics Dashboard, which presents PDMP data elements to the public in an easily-digestible format. The reporting capabilities of the WI ePDMP are still evolving and the reports continue to be refined.

User Satisfaction

DSPS did not conduct a user satisfaction survey during 2017. All available PDMP resources were dedicated to the ongoing development and enhancement of the Wisconsin Enhanced Prescription Drug Monitoring Program (WI ePDMP). DSPS intends to conduct a user survey at the end of Q1 2018, after users have become more familiar with the WI ePDMP and the enhancements released over the course of 2017. Results of the survey will likely be available in the Q2 2018 report. DSPS will gather additional information about user satisfaction and ideas for potential enhancements through user groups which will be forming in Q1 and Q2 of 2018. The user groups are part of a grant project for user-led enhancements with funding from the U.S. Department of Justice Bureau of Justice Assistance Harold Rogers PDMP grant program. Through informal feedback throughout 2017, users have reported being very satisfied with the enhanced functionality and ease of use of the WI ePDMP.

Impact on Referrals for Investigation

Between January 1 and December 31, 2017, the Controlled Substances Board (CSB) did not make any referrals for possible investigation and disciplinary action pursuant to s. 961.385 (2) (f), Wis. Stats. Efforts were focused on developing and enhancing the WI ePDMP, as well as educating prescribers and pharmacists about how to use the WI ePDMP to promote safe prescribing and dispensing practices. The CSB has requested a report of the number of patients whose prescribers and dispensers are writing or filling prescriptions greater than 90 MME, with or without benzodiazepines, and including information on prescriber use of the PDMP. The number of patients, prescribers, and dispensers in the preliminary report will help the CBS determine thresholds for possible referrals to professional boards, such as the Medical Examining Board, Pharmacy Examining Board, Board of Nursing, and Dentistry Examining Board. Developing thresholds will then assist with prioritizing the future reporting needs of the PDMP related to referrals for investigation for failure to submit dispensing data, non-compliance with practitioner requirements, or circumstances indicating suspicious or critically dangerous conduct or practices. On the data submission side, reports have already been made to the CSB about the number and types of errors in the dispensing data submitted. In anticipation of a formal dispenser compliance audit in 2018, dispenser outreach in 2017 focused on bringing dispensers into compliance and educating them about the most common errors and how to correct them to ensure that records are loaded.

Monitored Prescription Drug Use Trend

The amount of monitored prescription drugs, and opioids in particular, dispensed in 2017 shows an overall downward trend since 2015. In 2017, the total number of monitored drug prescriptions dispensed was 9,136,817, approximately 14% less than the total number of monitored drug prescriptions dispensed in 2015, 10,628,329. Figure 1 below shows the decrease from 2015 to 2017.

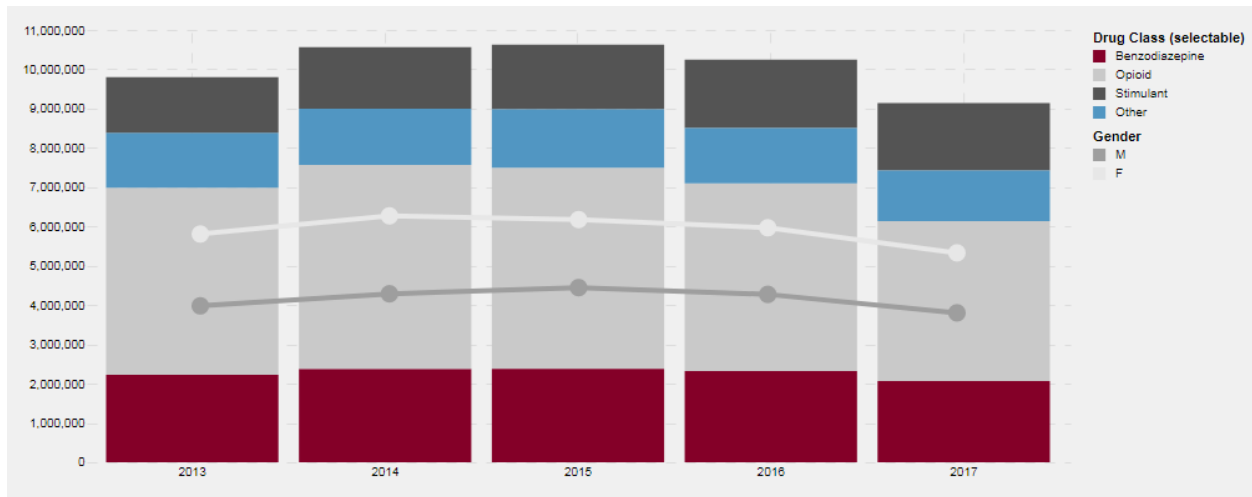


Figure 1. Monitored Prescription Drugs Dispensed in WI, 2013-2017, All Drug Classes

When looking at opioids specifically, there was a 20% decrease in the number of prescriptions dispensed, from 5,105,729 in 2015 to 4,066,083 in 2017. Figure 2 below shows the decrease in opioid prescriptions dispensed.

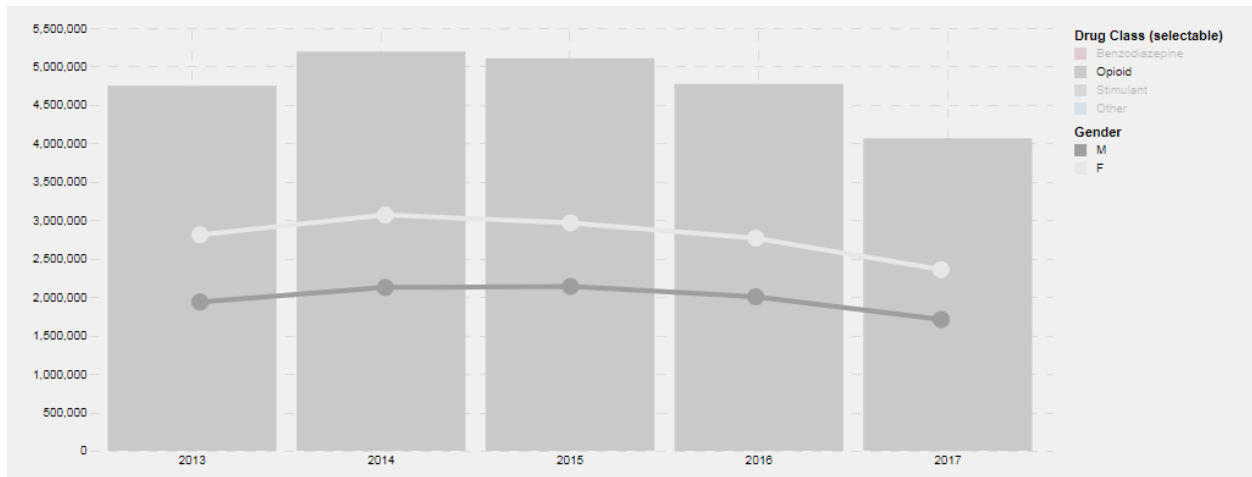


Figure 2. Monitored Prescription Drugs Dispensed in WI, 2013-2017, Opioids

Similarly, benzodiazepines show a decrease of approximately 13%, from 2,377,419 in 2015 to 2,069,958 in 2017. Figure 3 below shows the decrease in the number of benzodiazepine prescriptions dispensed.

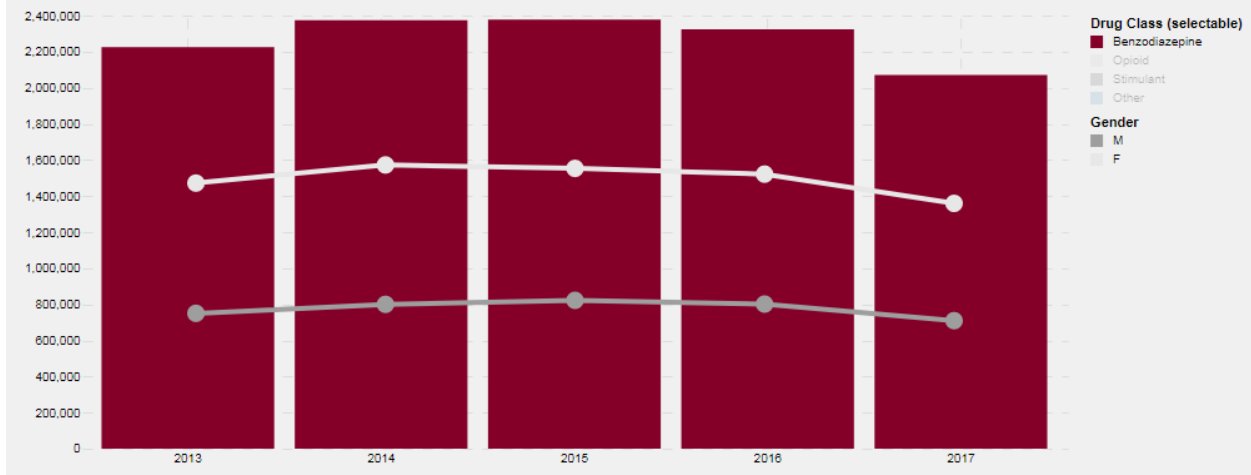


Figure 3. Monitored Prescription Drugs Dispensed in WI, 2013-2017, Benzodiazepines

Stimulants, however, show an increase of approximately 9% since 2014, even though there was a slight (approximately 1%) decrease from 2016 to 2017. In 2014, 1,570,130 stimulant prescriptions were dispensed; in 2016, 1,737,922 stimulant prescriptions were dispensed; and in 2017, 1,712,449 stimulant prescriptions were dispensed to patients in Wisconsin. Figure 4 below shows the increase in stimulant prescriptions dispensed from 2014 to 2017. Interestingly, the lines on the bars below show a reversal in the distribution of male and female patients receiving the prescriptions: for all controlled substance prescriptions, opioids, and benzodiazepines, female patients account for a greater portion of the dispensing records; however, for stimulants, male patients account for the largest portion of the prescriptions dispensed.

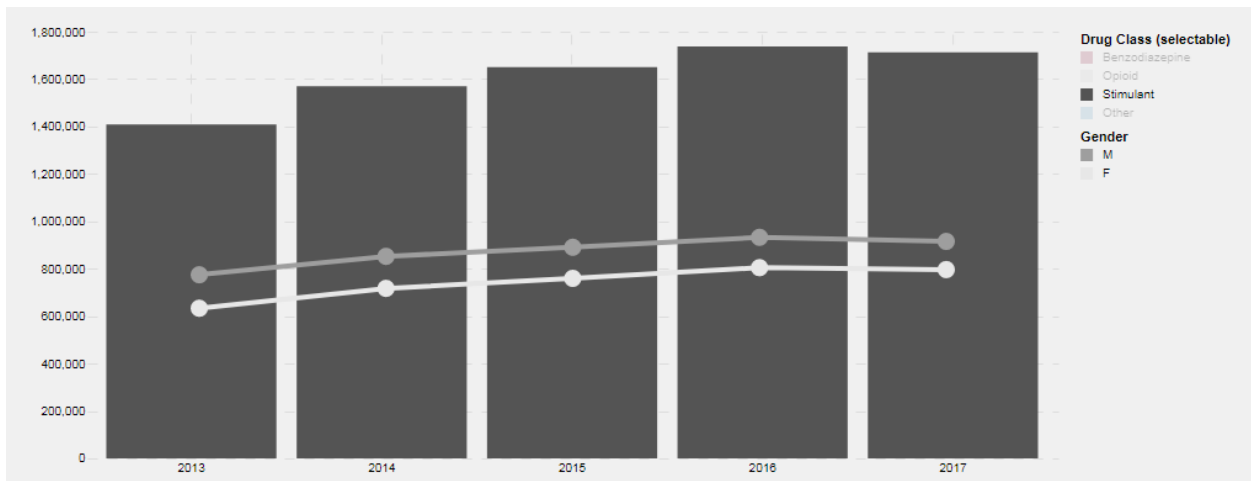


Figure 4. Monitored Prescription Drugs Dispensed in WI, 2013-2017, Stimulants

While there was a reduction in the overall volume of monitored prescription drugs dispensed, there has been little change in the 15 most dispensed monitored prescription drugs since 2015. Table 1 below shows the top 15 most dispensed monitored prescription drugs during 2017, ranked in order of the

volume of prescriptions dispensed. The top 15 monitored prescription drugs dispensed make up 88% of the dispensing records for any given quarter.

Drug Name	Prescriptions	Quantity
Hydrocodone-Acetaminophen	317,614	16,798,329
Amphetamine-Dextroamphetamine	198,695	9,514,720
Tramadol HCl	183,520	13,113,733
Oxycodone HCl	153,840	12,059,535
Alprazolam	152,050	8,682,036
Lorazepam	152,004	7,269,084
Clonazepam	127,513	7,481,833
Zolpidem Tartrate	125,198	4,166,920
Oxycodone w/ Acetaminophen	108,667	7,342,023
Methylphenidate HCl	98,054	4,617,602
Lisdexamfetamine Dimesylate	89,024	2,786,897
Pregabalin	61,474	4,540,811
Diazepam	54,256	2,268,581
Morphine Sulfate	51,384	3,016,613
Acetaminophen w/ Codeine	40,654	1,725,846

Table 1. Top 15 Monitored Drugs Dispensed in WI, Q4 2017, By Number of Prescriptions

The 5 most dispensed monitored drugs are listed in Table 2 below in the order of the total quantity of pills dispensed, rather than number of prescription orders filled.

Drug Name	Prescriptions	Quantity
Hydrocodone-Acetaminophen	317,614	16,798,329
Tramadol HCl	183,520	13,113,733
Oxycodone HCl	153,840	12,059,535
Amphetamine-Dextroamphetamine	198,695	9,514,720
Alprazolam	152,050	8,682,036

Table 2. Top 5 Monitored Drugs Dispensed in WI, Q4 2017, by Quantity Dispensed

The quantity of pills of each of the top 5 monitored drugs dispensed has decreased since 2015. The quantity of hydrocodone-acetaminophen pills dispensed decreased from 99,771,652 in 2015 to 74,326,164 in 2017, a difference of 25,445,488 pills or 26%. The quantity of Oxycodone Hcl pills saw a 21% decrease, from 67,827,911 pills in 2015 to 53,691,770 pills in 2017. The top benzodiazepine dispensed, Alprazolam, showed a 15% decrease in quantity of pills dispensed from 2015 to 2017, and the top stimulant dispensed, Amphetamine-Dextroamphetamine, showed an approximate 4% decrease in quantity of pills dispensed from 2015 to 2017. Figure 5 below shows the year-over-year decrease in the total quantity of pills dispensed of the top 5 monitored drugs. In all cases, the most significant decrease can be noted in 2017.

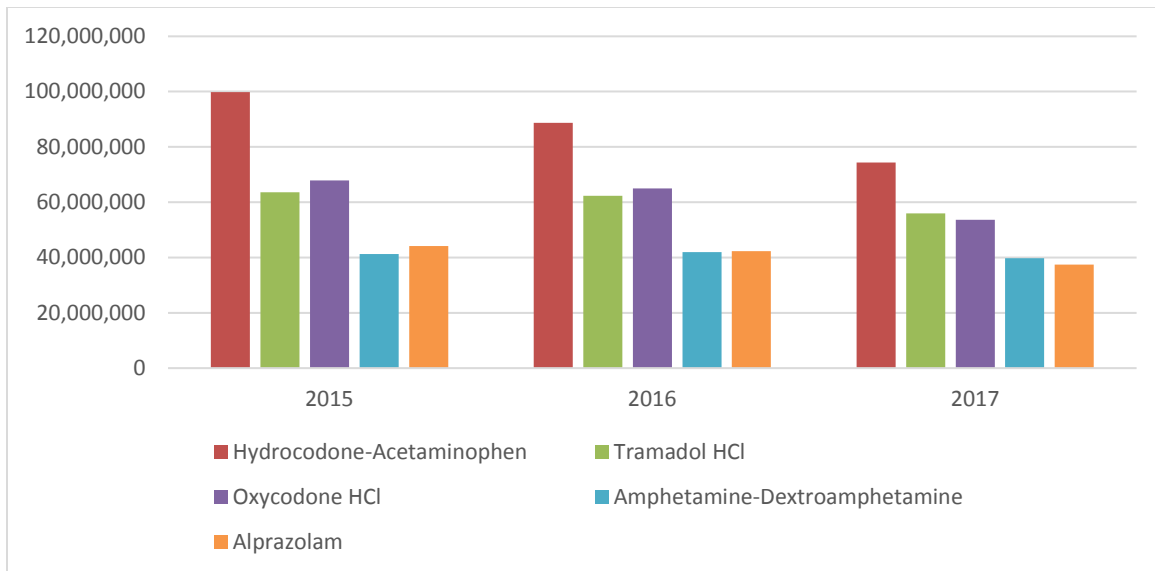


Figure 5. Top 5 Monitored Drugs Dispensed, 2015-2017, by Quantity

Law Enforcement Reports

Between October 1 and December 31, 2017, Wisconsin law enforcement agencies reported 705 events to the WI ePDMP. The reports were submitted by law enforcement agencies as required by s. 961.37 (3) (a), Wis. Stat. The law requires the agencies to submit a report in each of the following situations:

1. When a law enforcement officer receives a report of a stolen controlled substance prescription.
2. When a law enforcement officer reasonably suspects that a violation of the Controlled Substances Act involving a prescribed drug is occurring or has occurred.
3. When a law enforcement officer believes someone is undergoing or has immediately prior experienced an opioid-related drug overdose.
4. When a law enforcement officer believes someone died as a result of using a narcotic drug.

The reports submitted by law enforcement are attributed to patient reports in the PDMP and presented to the prescribers of the individuals involved in the incidents as alerts on the patient reports. In this way, the reports submitted by law enforcement provide valuable information to healthcare professionals, who are able to make prescribing, dispensing, and treatment decisions based on a more complete picture of their patients' controlled substance history. Figure 6 below shows the breakdown of the reports submitted to the PDMP by month for 2016 and 2017. There is no requirement for law enforcement agencies to submit their reports within a certain timeframe after the date of the event, so the numbers for events at the end of 2017 may still increase with submissions in early 2018. Outreach for law enforcement agencies is ongoing as part of an effort to increase awareness of the requirement to submit to the PDMP and the value of the information included in the reports.

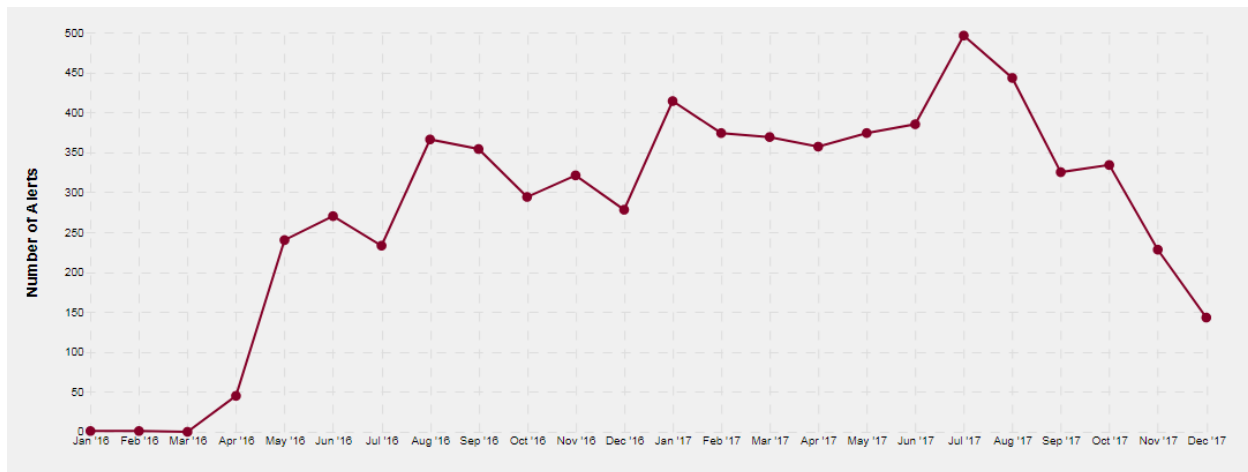


Figure 6. Law Enforcement Alerts Submitted to the WI ePDMP, 2016-2017

In 2017, 42% of the reports submitted by law enforcement agencies were reports of stolen controlled substance prescriptions, 29% were suspected violations of the Controlled Substances Act, 25% were suspected non-fatal opioid-related overdose events, and 4% were suspected narcotic-related deaths. This distribution can be seen in Figure 7 below.

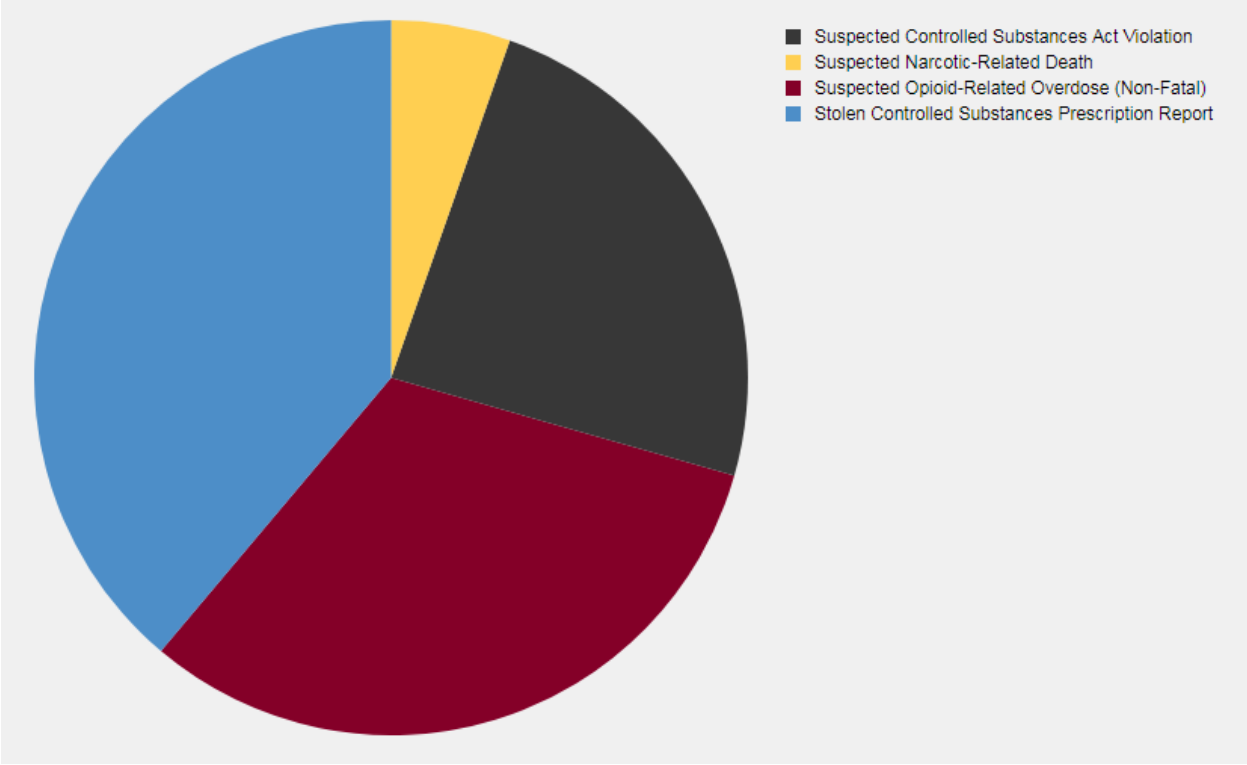


Figure 7. Breakdown of Law Enforcement Alerts Submitted to the WI ePDMP, by Alert Type, 2017

Disclosure of PDMP Data

Between October 1 and December 31, 2017, healthcare users made 1,803,597 patient queries. The total number of patient queries by healthcare users remained high, after the initial increase during the month of April 2017, when the requirement for prescribers to review the WI ePDMP prior to issuing a controlled substance prescription went into effect, as seen in Figure 8 below, taken from the WI ePDMP Public Statistics Dashboard.

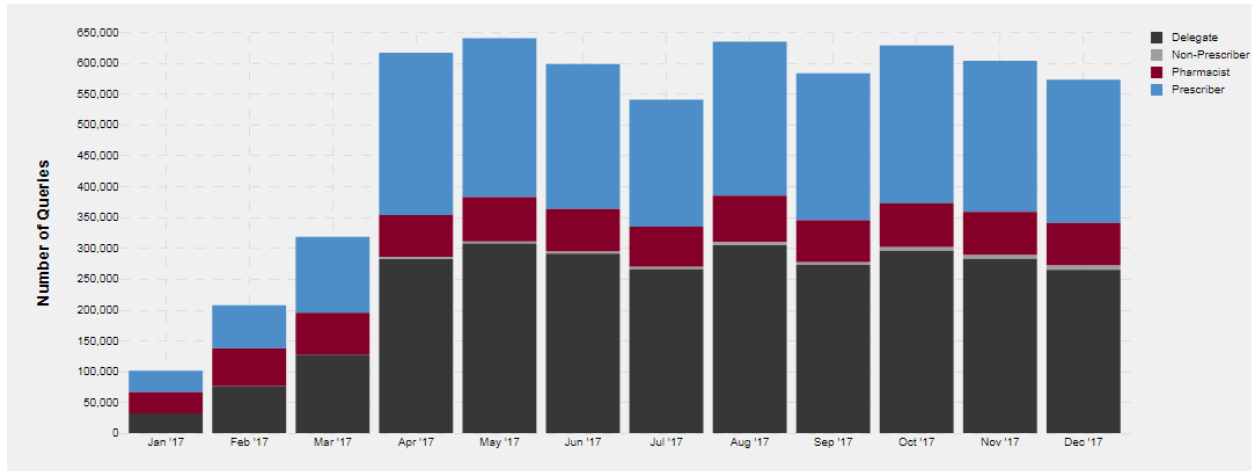


Figure 8. WI ePDMP Patient Queries by Healthcare Professionals, 2017

The daily average of queries by healthcare users reflects a similar increase during the month of April 2017, as seen in Figure 9 below. An average of over 19,000 queries were performed each day between October 1 and December 31, 2017, up from an average of approximately 6,800 queries performed per day during the first quarter of 2017.

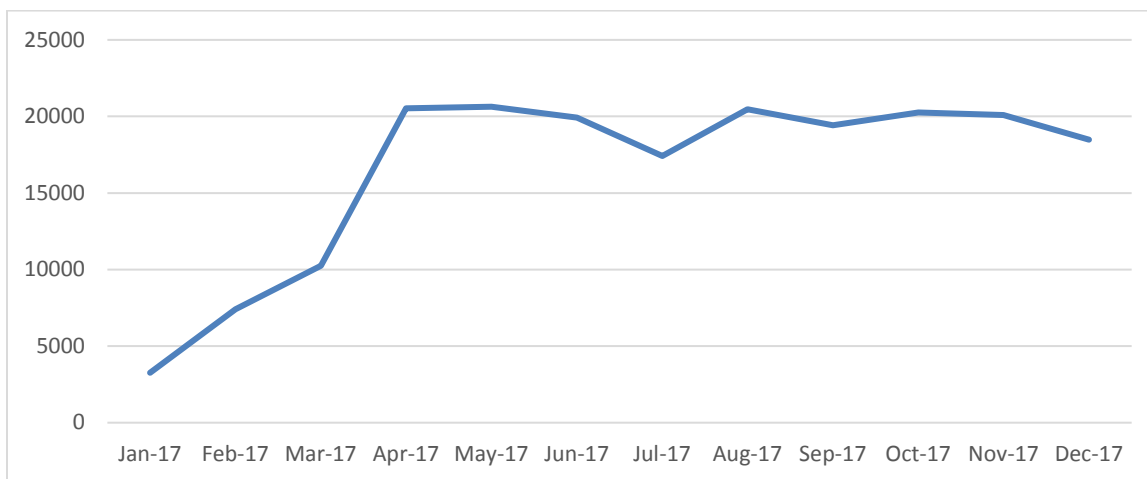


Figure 9. Average Number of Healthcare Patient Queries Per Day, 2017

The two pie charts below in Figures 10 and 11 show the breakdown of patient queries by prescribers, pharmacists, non-prescribers, and prescriber/pharmacist delegates for the first quarter of 2017 compared to the fourth quarter of 2017. The portion of queries performed by prescriber and prescriber/pharmacist delegates increased after the first quarter of 2017, and legislation allowing non-prescriber healthcare professionals, such as substance abuse counselors and individuals authorized to treat substance abuse, to register and use the PDMP went into effect on April 1, 2017.

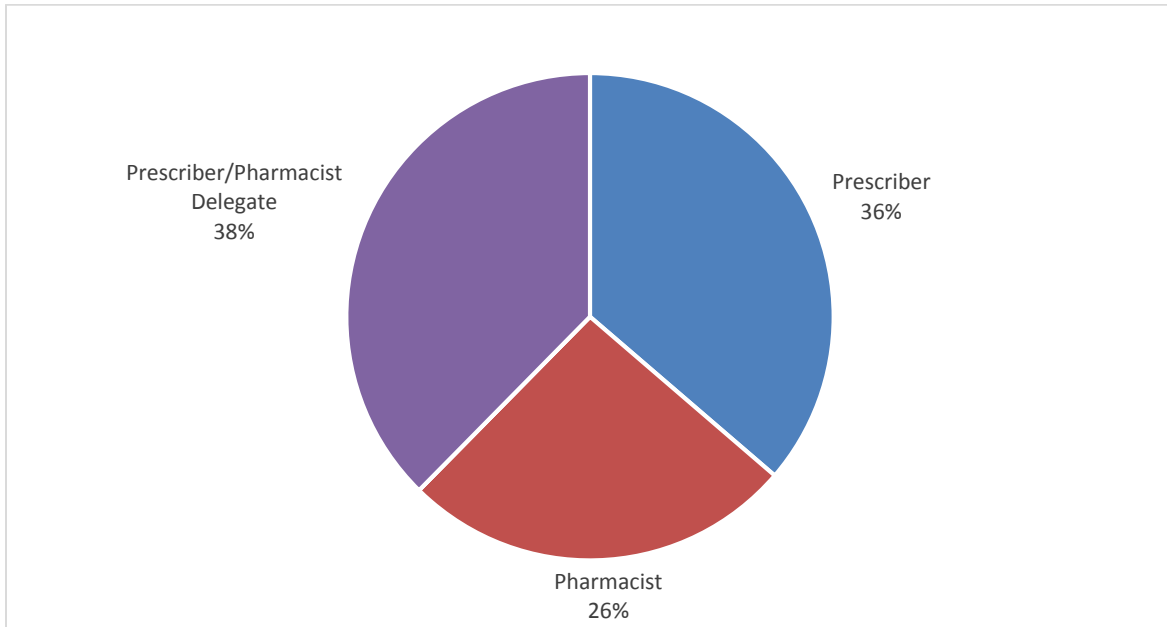


Figure 10. Patient Queries by Healthcare Users, by User Group, Q1 2017

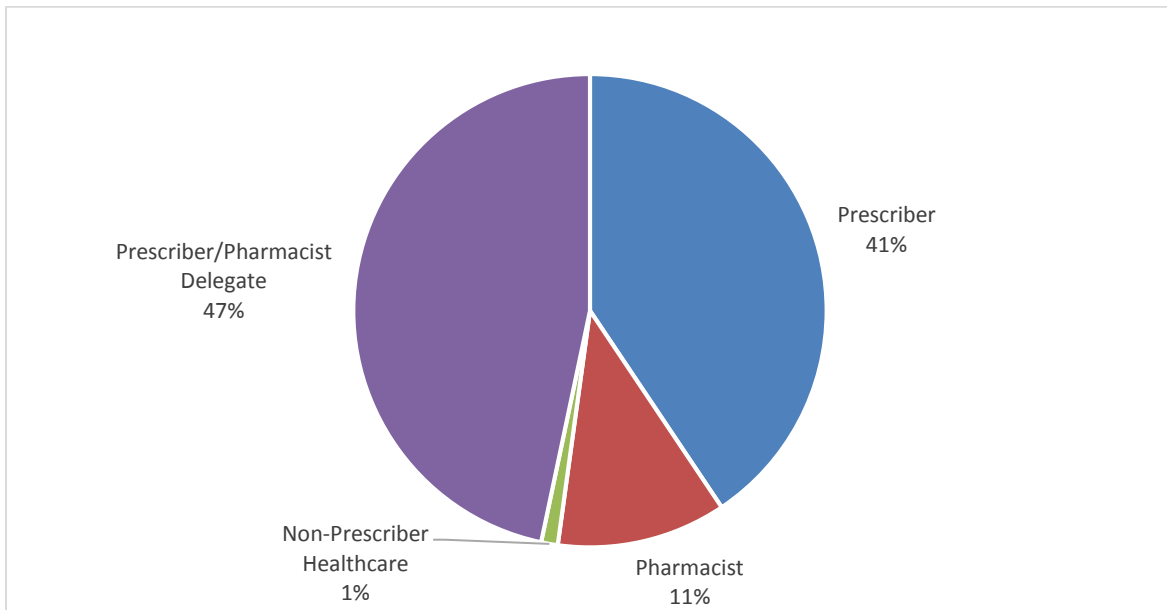


Figure 11. Patient Queries by Healthcare Users, by User Group, Q4 2017

In addition to the enhanced user interface of the WI ePDMP, a direct link to WI ePDMP patient reports from within electronic medical records (EMR) has increased the accessibility of WI ePDMP patient reports for providers within participating health systems. Users in health systems with the direct linkage are not required to navigate to a different website, log in, and enter the patient’s name and date of birth; the username and patient information are securely transferred to the PDMP behind the scenes. Users report that it can take as few as three seconds to obtain a WI ePDMP patient report in this way from the patient’s EMR. As of December 31, 2017, ten health systems had the integrated access to the PDMP from within their EMR platforms. The number of patient queries coming from the direct integration has increased steadily since April, 2017, as Figure 12 below shows. In December 2017, 33% of patient queries were through the direct integration.

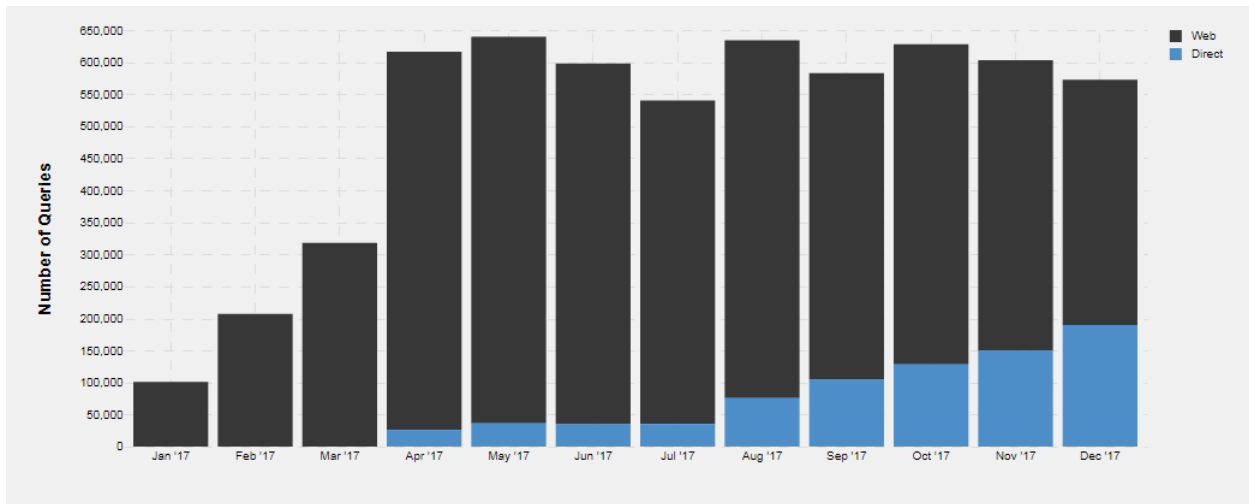


Figure 12. WI ePDMP Patient Queries, by Source, 2017

Authorized individuals from non-healthcare groups made 232 requests for PDMP data in Q4 of 2017. Figure 13 below shows that there has not been a significant increase in law enforcement requests for PDMP reports since the requirement of a court order for law enforcement access to PDMP records was removed in April 2017 pursuant to 2015 Wisconsin Act 266.

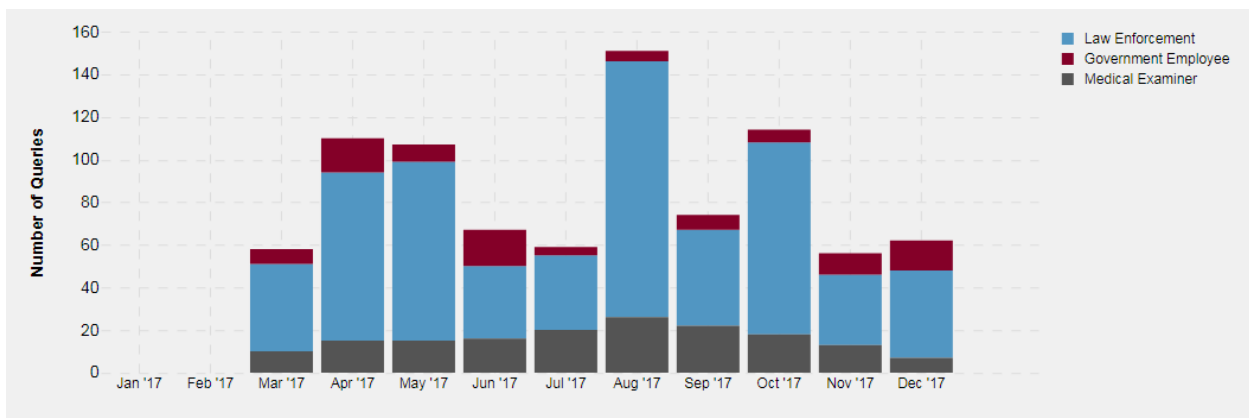


Figure 13. Non-Healthcare WI ePDMP Queries, 2017

Non-healthcare requests for PDMP reports prior to March 2017 were tracked using a different mechanism prior and therefore do not appear on the chart in Figure 13. Prior to the change in access for law enforcement in April 2017, there was an average of 58 authorized non-healthcare requests for PDMP reports per month.

Data-Driven Alerts

The WI ePDMP application uses sophisticated data analytics to assess a patient’s controlled substance prescription history. Data-driven alerts are integral to the important task of analyzing a patient’s prescription history and bringing the most relevant information in the prescription history to the immediate attention of the user. Analytics are performed on the prescription history to identify and alert WI ePDMP users to potential indications of abuse, diversion, or overdose risk, such as high morphine milligram equivalent doses, overlapping benzodiazepine and opioid prescriptions, and multiple prescribers or dispensers.

Doctor Shopping and Pharmacy Hopping

The WI ePDMP application uses data analytics to alert providers about patients who have obtained controlled substance prescription orders from at least 5 prescribers or received controlled substance prescription dispensings from at least 5 pharmacies or other dispensers within the previous 90 days. Note that multiple prescribers or dispensers may be associated with the same clinic, practice, or location because the PDMP does not delineate health systems. Between October 1 and December 31, 2017, the number of patients meeting the criteria for the Multiple Prescribers or Pharmacies Alert declined, with 16,674 alerts in October, 14,798 alerts in November, and 12,135 alerts in December. The average number of monthly Multiple Prescribers or Pharmacies Alerts for Q4 2017, 14,535, is down 29% compared to Q1 2017. The number of monthly alerts for all of 2017 is represented below in Figure 14, taken from the WI ePDMP Public Statistics Dashboard.

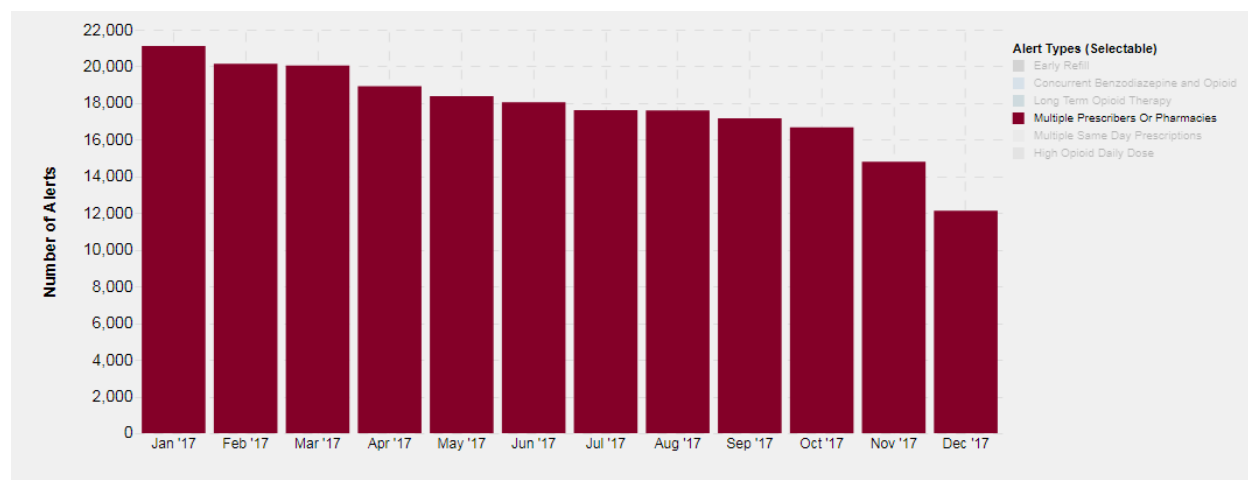


Figure 14. Multiple Prescriber or Dispenser Alerts, by Month, 2017

These alerts were not available in the WI PDMP prior to January 17, 2017. However, the criteria to meet the alerts were applied to data from previous years to give an indication of how many patients would have met the alert criteria for any given month. Figure 15 below shows the quarterly average number of patients in the WI ePDMP meeting the criteria for the Multiple Prescribers or Pharmacies Alert from January 2015 through December 2017. The Q4 2017 average of 14,535 monthly alerts is down 47% from the Q1 2015 average of 27,248 alerts per month.

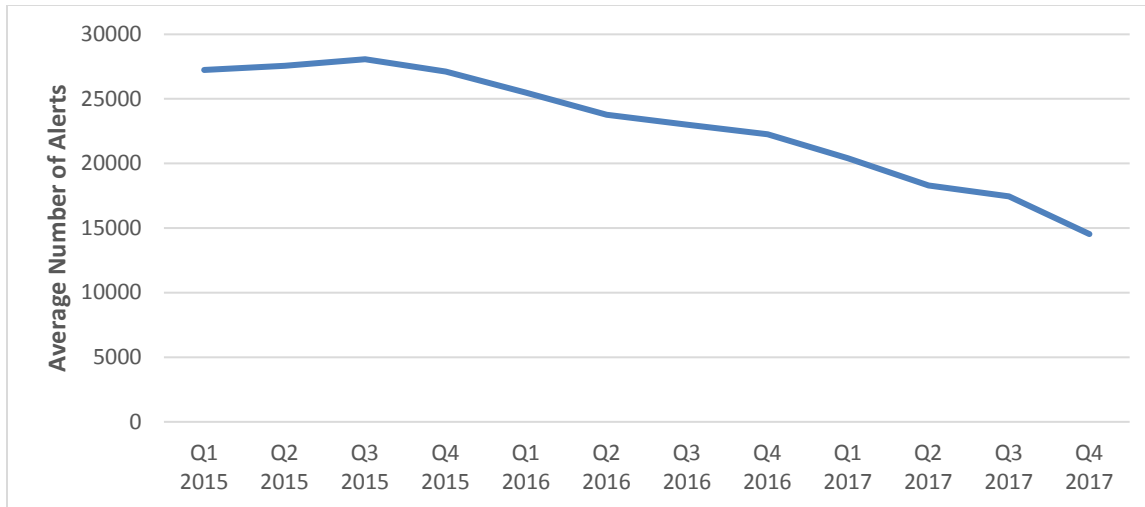


Figure 15. Average Number of Multiple Prescriber or Dispenser Alerts, by Quarter, 2015-2017

Morphine Milligram Equivalent (MME)

The WI ePDMP application uses data analytics to alert providers about patients who have Morphine Milligram Equivalents (MME) above 90. Between October 1 and December 31, 2017, the number of patients meeting the criteria for the High Opioid Daily Dose Alert remained relatively steady over the three months, with 24,790 alerts in October, 24,071 alerts in November, and 24,410 alerts in December. The average number of monthly high MME alerts for Q4 2017, 24,424, is down 22% compared to Q1 2017. The number of monthly high MME alerts for all of 2017 is represented below in Figure 16.



Figure 16. High Opioid Daily Dose Alerts, by Month, 2017

These alerts were not available in the WI PDMP prior to January 17, 2017. However, the criteria to meet the alerts were applied to data from previous years to give an indication of how many patients would have met the alert criteria for any given month. Figure 17 below shows the quarterly average number of patients in the WI ePDMP meeting the criteria for the High Opioid Daily Dose Alert from January 2015 through December 2017. The Q4 2017 average of 24,424 monthly alerts is down 37% from the Q1 2015 average of 38,833 alerts per month.

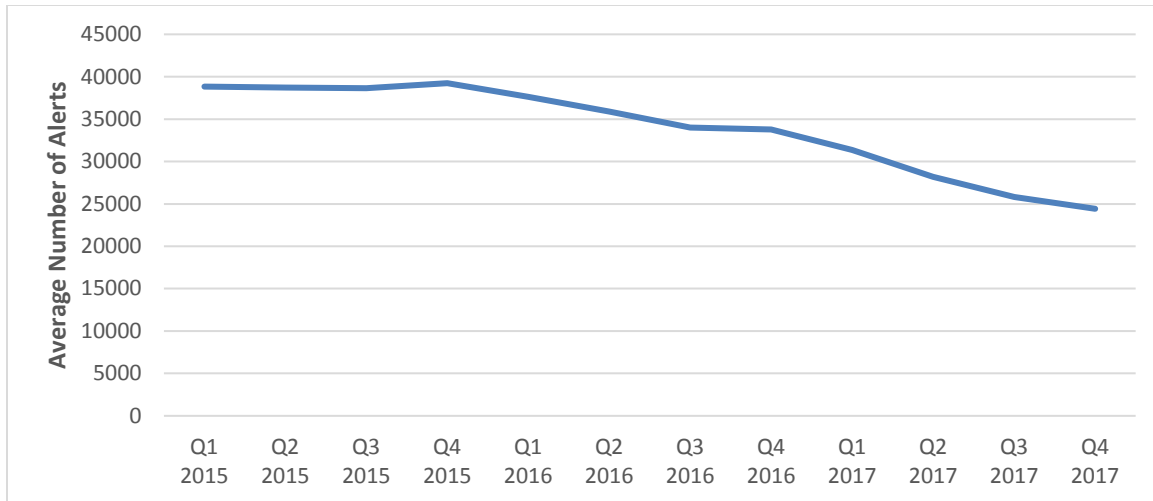


Figure 17. Average Number of High Opioid Daily Dose Alerts, by Quarter, 2015-2017

Opioid-Benzodiazepine Overlap

The WI ePDMP application uses data analytics to alert providers about patients who have overlapping benzodiazepine and opioid prescriptions. Between October 1 and December 31, 2017, the number of patients meeting the criteria for the Concurrent Benzodiazepine and Opioid Prescription Alert remained relatively steady over the three months, with 26,366 alerts in October, 25,509 alerts in November, and 25,416 alerts in December. The average number of monthly alerts for Q4 2017, 25,764, is down 17% compared to Q1 2017. The number of monthly alerts for all of 2017 is represented below as a chart taken from the WI ePDMP Public Statistics Dashboard.



Figure 18. Concurrent Benzodiazepine and Opioid Prescription Alerts, by Month, 2017

These alerts were not available in the WI PDMP prior to January 17, 2017. However, the criteria to meet the alerts were applied to data from previous years to give an indication of how many patients would have met the alert criteria for any given month. The chart below shows the quarterly average number of patients in the WI ePDMP meeting the criteria for the Concurrent Benzodiazepine and Opioid

Prescriptions Alert from January 2015 through December 2017. The Q4 2017 average of 25,764 monthly alerts is down 30% from the Q1 2015 average of 37,026 alerts per month.

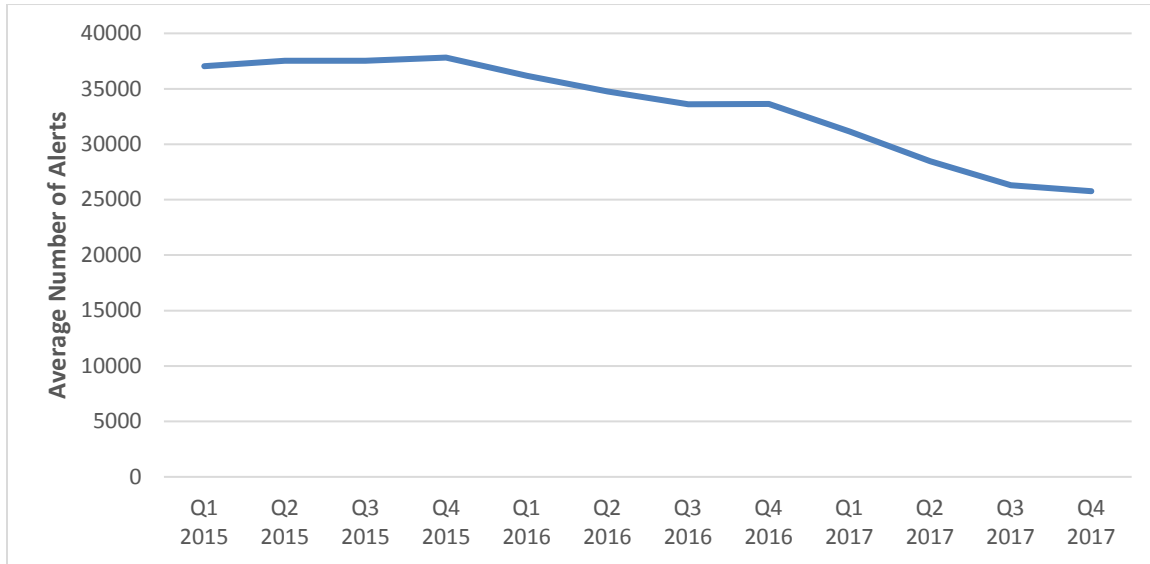


Figure 19. Average Number of Concurrent Benzodiazepine and Opioid Prescription Alerts, by Quarter, 2015-2017

Summary

2017 was an important year for the growth and enhancement of the Wisconsin Prescription Drug Monitoring Program as a clinical decision support tool, a prescribing practice assessment tool and a public health tool in Wisconsin's efforts to address the opioid crisis.

The number of monthly patient queries by healthcare professionals increased from approximately 100,000 queries in January 2017 to nearly 600,000 per month from April through December. The users that queried the PDMP benefitted from an enhanced user interface, including analytics driven alerts, to help support safe controlled-substance prescribing decisions. The effects are clear:

- 14% decrease in the total number of monitored drug prescriptions dispensed in 2017 compared to 2015
 - 20% decrease in the number of opioid prescriptions dispensed in 2017 compared to 2015
 - 13% decrease in the number of benzodiazepine prescriptions dispensed in 2017 compared to 2015
- 47% decrease in the average monthly doctor shopping alerts in Q4 of 2017 compared to Q1 of 2015
- 37% decrease in the average monthly high MME alerts in Q4 of 2017 compared to Q1 of 2015
- 30% decrease in the average monthly opioid-benzodiazepine alerts in Q4 2017 compared to Q1 of 2015

Additional data about these trends, including county-level detail for many of the charts, can be found on the WI ePDMP Public Statistics Dashboard (<https://pdmp.wi.gov/statistics>) under the corresponding tabs of Controlled Substance Dispensing, PDMP Utilization, and Law Enforcement Alerts.

The increased number of healthcare professionals reviewing records in the PDMP and the efforts made to present the most relevant information in the PDMP to those using it have had a positive effect on prescribing trends in Wisconsin. Future reports will show whether continued education for healthcare professionals and additional enhancements to the WI ePDMP to improve the usability of the system and its integration into healthcare workflows will continue to have an impact.