Maine Department of Health & Human Services
Office of Behavioral Health

Prescription Monitoring Program Annual Report 2022

Maine Prescription Monitoring Program

Revised August 2023

Contents

Acknowledgement to the Staff of the PMP and Data Team of the Office of Behavioral Health for preparation of this document.

Purpose of the Annual PMP Report

Pursuant to Public Law Chapter 460, the department shall provide to the joint standing committee of the Legislature having jurisdiction over health and human services matters at the beginning of each year, and at such other times as the committee requests, data pertaining to the aggregate number of prescriptions of each drug required to be included in the program, the number of prescribers participating in the program categorized by specialty, any historical trends or patterns in prescribing practices within the State, any progress in the implementation of information sharing agreements authorized by subsection 4-A and any other information pertaining to the work of the program as requested by the committee that is reasonably available to the department, as long as all information reasonably likely to reveal the patient or the prescriber or other person who is the subject of the information has been removed.

For additional background information on the PMP program and the evolution of the overdose crisis, please refer to the 2021 PMP Annual Report.

Definitions

- **Delegate/Designee** – Any staff member duly authorized by a prescriber to access PMP data
- **Lorazepam Milligram Equivalents (LME)** – The standard value utilized to compare benzodiazepine doses and potency
- **Morphine Milligram Equivalents (MME)** – The standard value utilized to compare opioid doses and potency
- **Opioid Agonist** – A drug that activates the opioid receptors in the brain fully resulting in the full opioid effect (Examples: oxycodone, hydrocodone, morphine)
- **Opioid Partial Agonist** – A drug that activates the opioid receptors in the brain to a much lesser degree than a full agonist (Examples: buprenorphine products)
- **Patient Report –** A report that displays the prescription drug activity for a specific patient
- **Total Quantity** – The total number of doses for a specific medication (Doses include tablets, kits, and capsules, but not liquids)

Overview of Overdose Crisis and PMP Work in 2022

The overdose crisis and substance use in Maine continue to be high priorities for the state. In 2022, overdose numbers continued to increase, but at a lower rate than in the previous two years. The state also started to report nonfatal overdoses, with at least 93% of overdoses being reversed. Fentanyl analogs continue to be involved in the vast majority of fatal overdoses (79%) and polypharmacy continues to be the rule. Novel

psychoactive substances continue to emerge in the street supply, complicating the side effects and dangers of opioid misuse.

While fatal overdose is predominantly driven by illegal fentanyl analogs, prescription opioids continue to be present in 20% of fatal overdose cases in Maine. Benzodiazepine prescribing increased similarly to opioid prescribing in the 2000s and 2010s but has been decreasing more recently. Stimulant prescribing has increased in the 2010s and 2020s. Unnecessary or prolonged exposure to prescribed controlled substances continues to be a risk factor for developing substance use disorders and subsequently using lethal street drugs. Therefore, overprescribing of controlled substances continues to put citizens at risk for addiction and overdose, while somewhat more indirectly than in the past.

In 2022, the Maine Prescription Monitoring Program (PMP) received additional grant funding to support the work of a half-time Clinical and Policy Advisor, bringing a perspective of clinical expertise and experience in both Family Medicine and Addiction Medicine to look at PMP data and processes. In addition, the PMP continues to operate with a staff of two full-time employees as it has for several years.

Major priority areas of Clinical Advisor focus (outlined in depth in next section):

- Identification of higher-risk or concerning controlled substance prescribing patterns with mechanism to refer prescribers to education or licensing board for further evaluation
- Mandatory use (checking the PMP)
- Opioid rapid response program (ORRP) developing a framework for responding to disruptions in care (i.e. clinic closures or unexpected prescriber loss)

Major priority areas of PMP Coordinator focus:

- Decedent notification (incorporating death notices from Vital Statistics)
- ARCOS reporting dashboard (tracking controlled substance deliveries to pharmacies)
- Gateway integration (accessing the PMP directly within electronic prescribing platforms)
- Mechanisms for automatically updating and confirming registrants
- Chief Medical Officer access (“Organization Management”)
- E-prescribing and pharmacy waiver automation/integration
- Operational side of enhancements (Mandatory Use dashboard, Higher-risk dashboard development)
- Answering data requests including subpoenas
- Providing end-user support
- Working directly with the platform vendor

Utilizing the PMP to Focus on Safer Prescribing: 2022 Activities

In accordance with Governor Mills' vision of leveraging the Maine PMP as a proactive public health outreach mechanism to reduce high-risk controlled substance prescribing, the Maine PMP Team began development of a rubric to identify higher-risk prescribers in April of 2022. Data from the PMP are used to identify potentially concerning controlled substance prescribing patterns and to offer resources to prescribers and their staff to improve patient, prescriber, and community safety. The prescriber risk assessment rubric includes five measures encompassing opioid prescription volume, dosage, and co-prescription of other medications known to raise patients' risk of overdose fatality.

Following development of the rubric, the PMP Team developed a provider surveillance process and implementation plan in alignment with Maine's PMP statute. All Maine providers who are actively prescribing controlled substances now have their prescribing history reviewed on a six-month cadence. Prescribers are grouped for review according to their medical specialty (e.g. Medical specialties, Surgical specialties, Orthopedics, Emergency Medicine/Acute care, etc.). Statistical analysis of prescribing behavior on each of the five measures is used to identify the highest risk prescribers in each specialty grouping. Numbers don't always tell the whole story and there may be circumstances unknown to the PMP which might make higher frequency controlled substance prescribing reasonable.

Two referral pathways are possible: highest-risk prescribers are referred to licensing boards for review (in 2022, this represented <0.4% of all controlled substance prescribers); prescribers with the next highest level of risk are referred to an education pathway. Licensing boards determine whether to further evaluate prescribers and possibly require participation with controlled substance prescribing resources. The education pathway is a voluntary intervention designed to support prescribers as they actively work to bring their prescribing practices into alignment with their peers and will leverage the Schmidt Institute, the SUD Learning Community, and the Maine Independent Clinical Information Service to provide continuing education on clinical best practices for controlled substance prescribing/stewardship, peer-to-peer guidance/technical support and academic detailing. Prescribers will be reassessed after six months and again after 12 months for demonstrated progress towards alignment with medical specialty group peers.

Another area where prescribers are now being actively monitored by the PMP is compliance with the 2016 statue to check the PMP prior to an initial opioid or benzodiazepine prescription and every 90 days for ongoing prescriptions. The development of this program, termed Mandatory Use, began in 2022. Aligning the available report from the PMP vendor with the statute as closely as possible, the PMP now offers prescribers the opportunity to check their own compliance score. Communication with prescribers regarding the requirement, its basis in protecting patient safety and the availability of the self-check has been ongoing and will continue in 2023 while an intervention plan is developed.

Opioids Involved in Maine Overdose Deaths in 2022

Pharmaceutical opioids were involved in 20% of fatal overdoses in Maine in 2022, nearly always in combination with other substances. The involvement of pharmaceutical opioids in fatal overdoses has decreased from 25% in 2020.

Table 1: Key Drug Categories and Combinations Causing Death Among Confirmed Overdoses, 2022

	Prevalence in Overdose Deaths					
Cause of death (alone or in combination with other drugs)	***Jan-Dec 2021 Est. N = 631***		***Jan-Dec 2022 N = 642***		***Dec 2022 N = 16***	
Fentanyl or fentanyl analogs	489	77%	507	79%	9	56%
Heroin	22	4%	15	2%	0	0%
Cocaine	156	25%	191	30%	5	31%
Methamphetamine	172	27%	208	32%	3	19%
Pharmaceutical opioids*	130	21%	128	20%	1	6%
Fentanyl and heroin	20	3%	15	2%	0	0%
Fentanyl and cocaine	127	20%	156	24%	2	13%
Fentanyl and methamphetamine	133	21%	170	26%	2	13%
Fentanyl and xylazine	53	8%	39	6%	1	6%
Fentanyl and tramadol	24	4%	9	1%	0	0%

**Nonpharmaceutical tramadol is now being combined with fentanyl in pills and powders for illicit drug use. When found in combination with fentanyl, and in the absence of a known prescription, tramadol is categorized as a nonpharmaceutical opioid.*

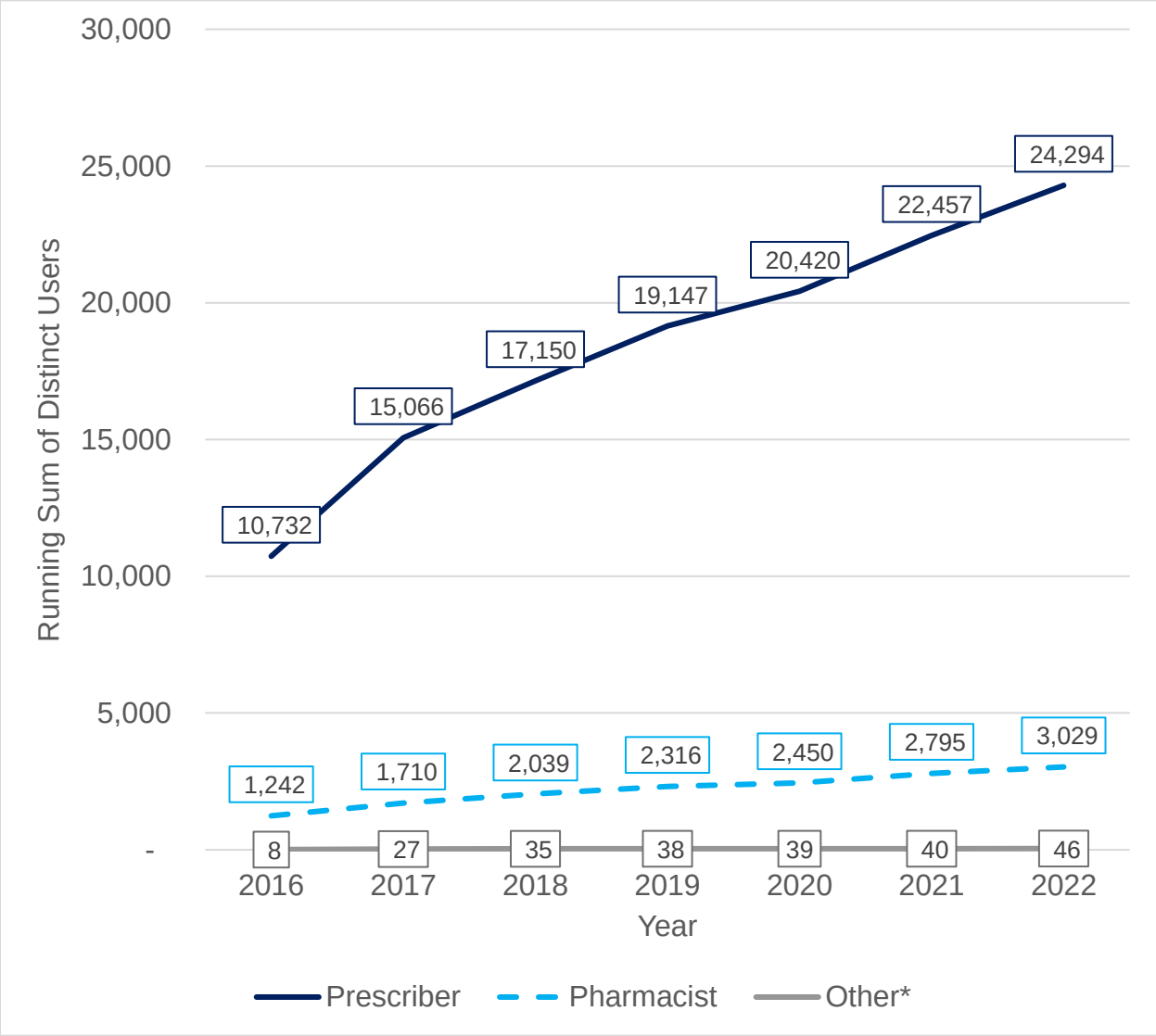
Note: Sample size (N) for confirmed cases only

Source: Sorg, Marcella H.; Soucier, Daniel S.; and Leidenfrost, Abby, "Maine Monthly Overdose Report for December 2022" (2023). Health & Public Safety. 53.

PMP Registration

Registration has continued to increase over time as new prescribers, delegates and dispensers enter the workforce. As of December 31, 2022, there were 12,106 in-state prescribers and 2,030 in-state dispensers registered in Maine’s Prescription Monitoring Program (PMP) database.

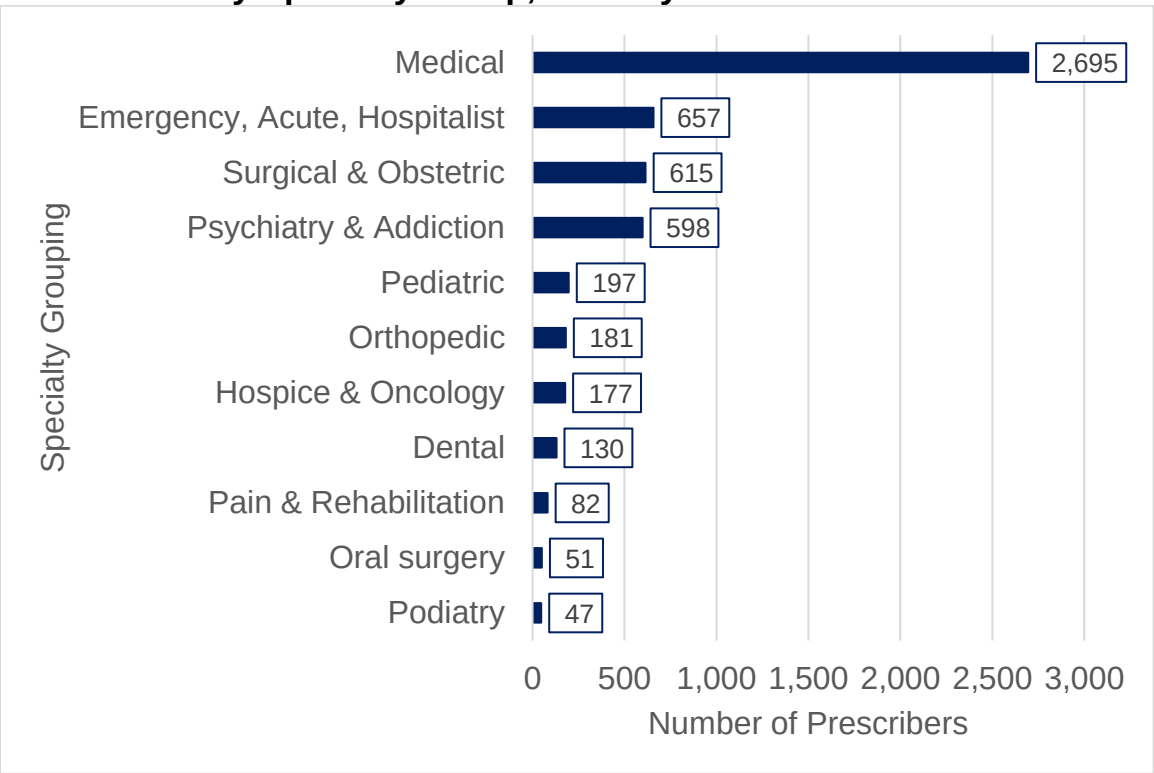
Figure 1: Running Sum of Registered PMP Users by User Type, 2016-2022



**Other includes board investigators, Office of the Chief Medical Examiner, and state PMP administrators.*

Source: Maine Office of Behavioral Health

Figure 2: Active Controlled Substance Prescribers by Specialty Group, January 2022-June 2022

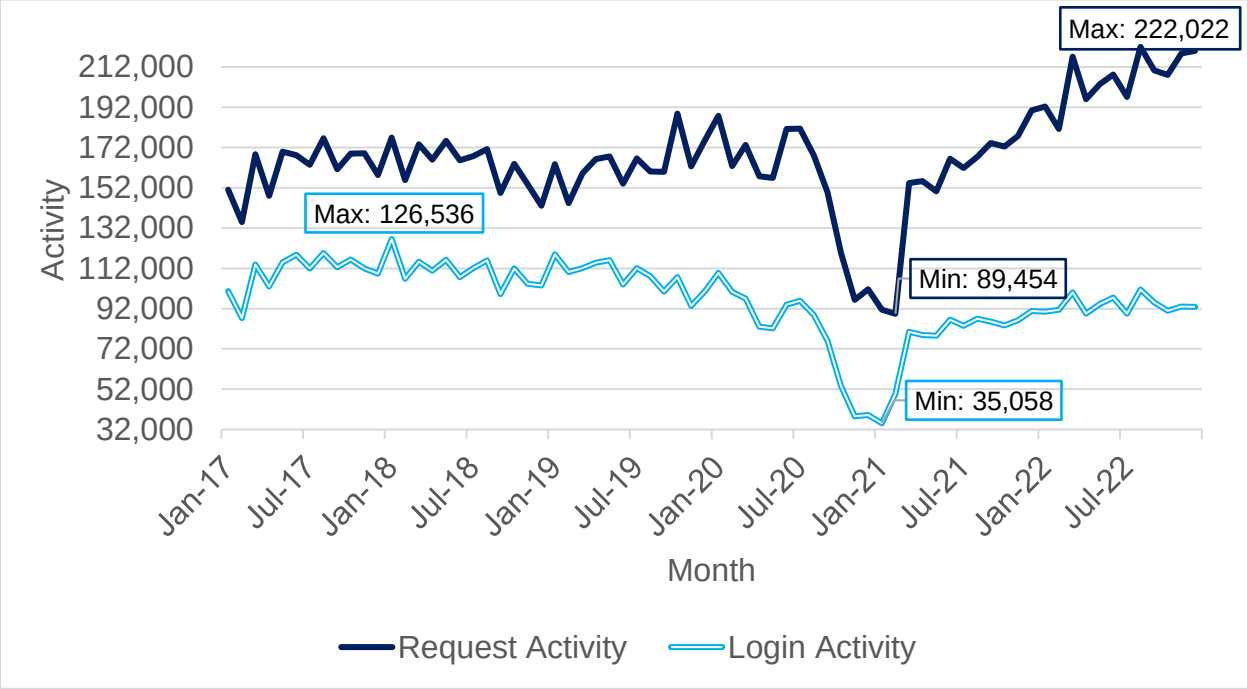


Note: Veterinarians not included.
Source: Maine Office of Behavioral Health

Utilization of the PMP

In general, total patient report checks continued to increase in 2022 while login activity decreased slightly. There were nearly 2.5 million total PMP patient report checks by prescribers, prescriber delegates and pharmacists in 2022. Note that for each user login, there may be multiple patient report checks.

Figure 3: Longitudinal Comparison Between PMP Logins and Patient Report Requests, 2018- 2022



Note: The decrease in login and request activity beginning in October 2020 was due to the planned transition to a different PMP system which was subsequently cancelled.
Source: Maine Office of Behavioral Health

Prescription Opioid Medications

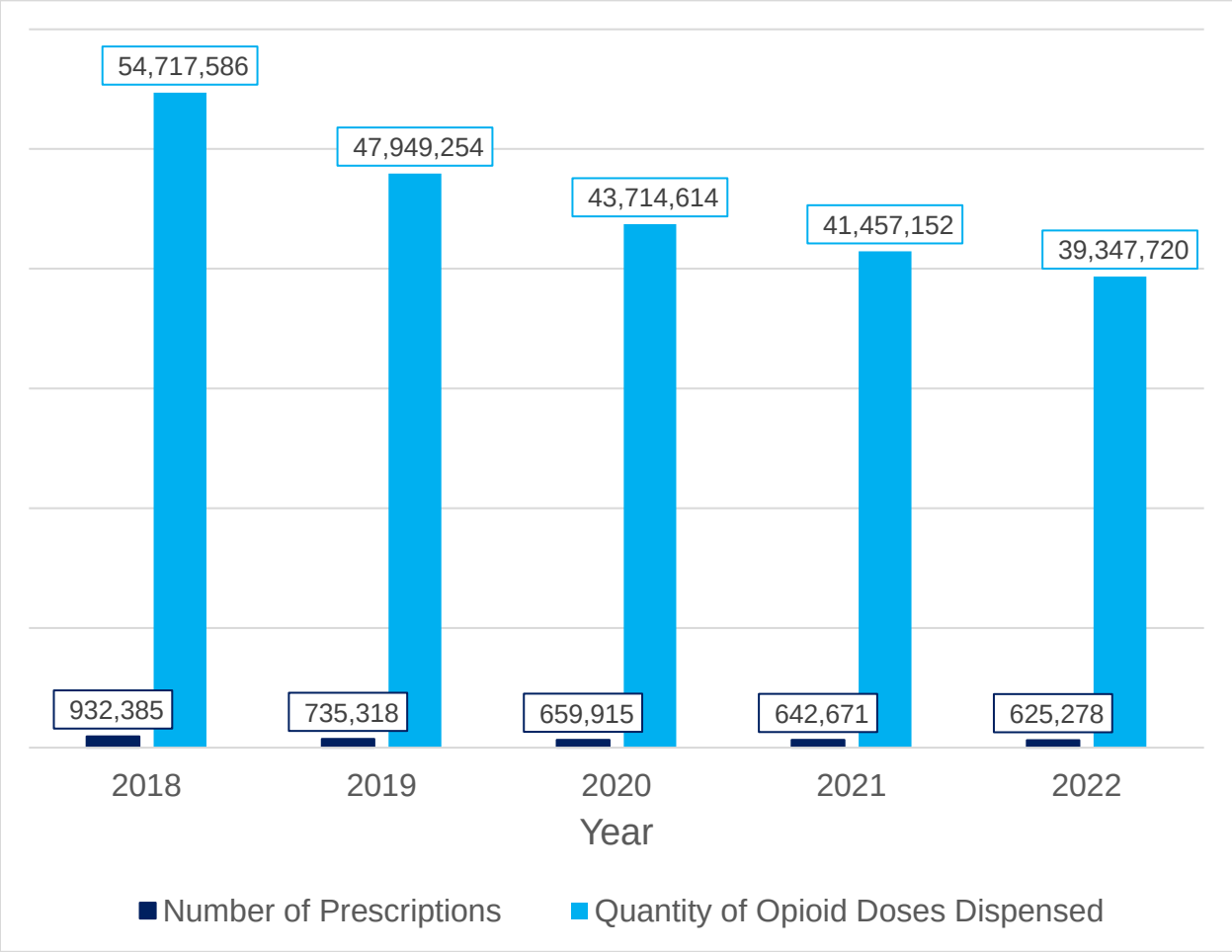
Table 2: Historical Comparison Between Opioid Prescriptions Dispensed, 2015-2022

	2015	***2022***
Number of opioid prescriptions dispensed (total)	1,070,682	1,004,966
Number of opioid prescriptions dispensed (per capita)	0.79	0.64

Source: Maine Office of Behavioral Health

Opioid prescribing peaked in Maine in 2012. Both the quantity of opioid doses and the number of prescriptions decreased in Maine in 2022, down 5% and 3%, respectively, from 2021 and down 28% and 25% from 2018.

Figure 4: Prescription Opioid Medication Dispensation Trends, 2018-2022



Source: Maine Office of Behavioral Health

Most Frequently Prescribed Opioid Medications, 2022

Buprenorphine-naloxone, an opioid partial agonist used for the treatment of opioid use disorder, was the most frequently prescribed opioid in Maine in 2022. Morphine milligram equivalents (MMEs) are not calculated for buprenorphine products because it is a partial agonist and has lower risk for accidental overdose than full agonists. Among opioids prescribed for pain, oxycodone, hydrocodone, tramadol, and morphine were the most prescribed. Note that 9th on the list, fentanyl, refers to the prescription product, not to be confused with the illegally manufactured fentanyl that predominates the street drug supply. Also note that 10th on the list, methadone, represents only methadone prescribed for chronic pain as methadone used for the treatment of Opioid Use Disorder is dispensed directly from certified Opioid Treatment Programs at 12 locations in the state.

Table 3: Most Frequently Prescribed Opioid Medications, 2022

Generic Name	*Prescription Count*	*Quantity Dispensed*	*Total MME*
buprenorphine HCl/naloxone HCl	277,437	6,438,337	0
oxycodone HCl	183,789	11,496,089	170,462,973
hydrocodone bitartrate/acetaminophen	139,560	9,582,976	67,432,524
tramadol HCl	114,873	7,964,609	80,723,654
morphine sulfate	47,304	2,213,310	49,203,257
buprenorphine HCl	40,270	1,484,736	0
oxycodone HCl/acetaminophen	34,199	2,284,715	22,967,096
hydromorphone HCl	21,185	1,214,132	21,820,720
fentanyl	14,388	127,656	31,235,101
methadone HCl	13,196	1,215,261	43,953,185
acetaminophen with codeine phosphate	12,942	706,761	3,468,319
buprenorphine	5,727	19,333	0
oxycodone myristate	3,098	158,540	4,872,203
butalbital/acetaminophen/ caffeine/codeine phosphate	1,199	69,589	313,151
oxymorphone HCl	911	67,534	2,001,780
hydrocodone bitartrate	879	26,465	981,156
hydrocodone/ibuprofen	615	60,273	454,860
Codeine phosphate/butalbital/ aspirin/caffeine	568	21,974	98,883
tapentadol HCl	553	36,112	1,084,180
tramadol HCl/acetaminophen	475	46,025	345,188
codeine sulfate	437	39,558	236,372
hydromorphone HCl/PF	415	47,368	12,434,100
butorphanol tartrate	410	2,019	220,544
meperidine HCl	53	4,869	9,605
pentazocine HCl/naloxone HCl	51	4,406	81,511
opium/belladonna alkaloids	35	464	24,720
meperidine HCl/PF	13	39	585
fentanyl citrate/PF	8	710	10,650
sufentanil citrate	7	1	1,572,000
codeine phosphate	2	2	291
fentanyl citrate	1	0	52,000
acetaminophen/caffeine/ dihydrocodeine bitartrate	1	30	120

Assessments of Prescribing Risk

Clinical Alerts

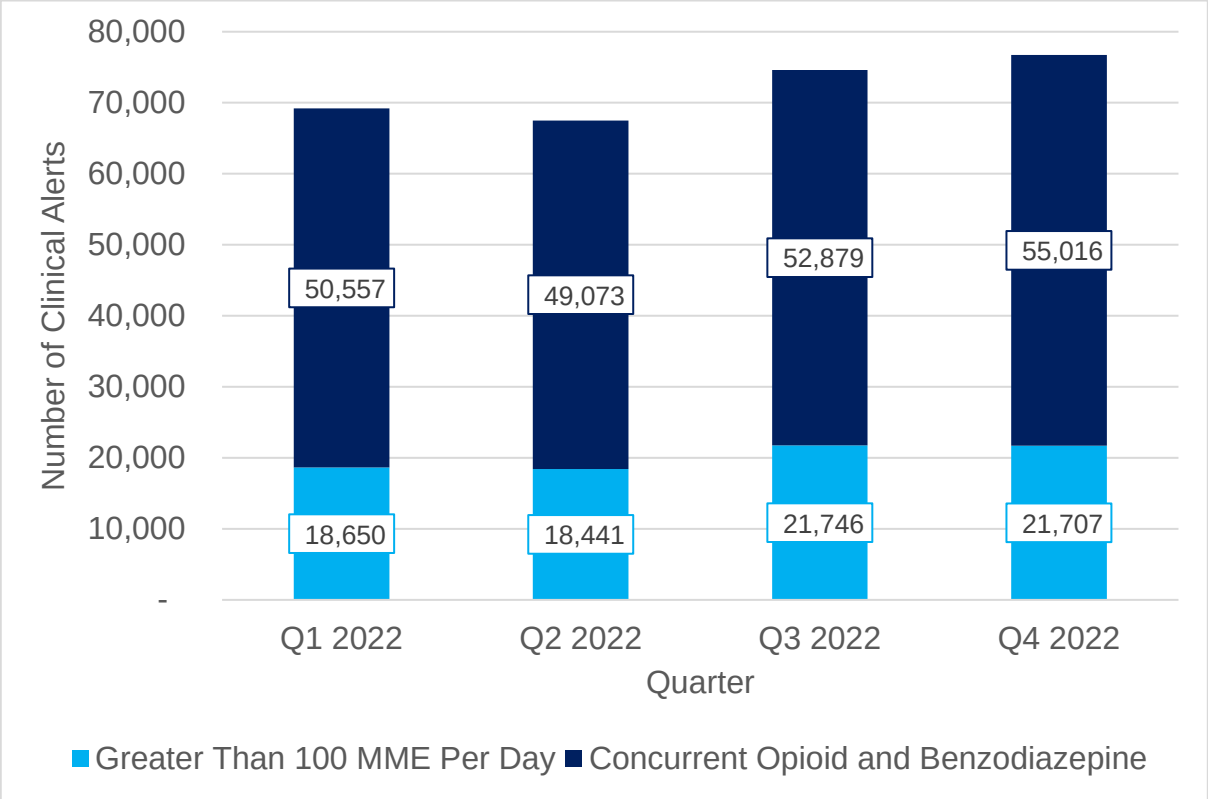
Maine's PMP provides automatically generated alerts to prescribers when higher-risk prescribing occurs, and additional clinical attention may be warranted. The two most common alerts are:

- Prescription of an opioid(s) that exceeds 100 MME/day
- Prescription of concurrent opioid and benzodiazepine

Table 4: Historical Comparison of Total Clinical Alerts, 2015-2022

	2015	*2022*
Total clinical alerts	235,005	288,692

Figure 5: Total Clinical Alerts by Alert Type, 2022



Source: Maine Office of Behavioral Health

High Dose Opioid Prescribing

Maine law known as Chapter 488, enacted in 2016, set a limit of 100 daily morphine milligram equivalents (MMEs) before requiring the prescriber to justify a higher dose using a list of exemption codes for particular diagnoses or situations where high dose opioids **may** have greater benefit than risk. Maine's PMP provides clinical alerts to prescribers when a patient surpasses this limit and allows public health officials to track the prevalence of this practice. Over time, the number of patients on doses of opioids greater than 100 MMEs has decreased. Since 2018, most counties have had close to a 50% (or more) reduction in high dose opioid prescribing. In November 2022, the CDC issued a revised guideline on treating pain. The 2022 guideline advises against setting absolute limits on opioid doses while also acknowledging that doses above 50 MME have higher risks and that there is no evidence that escalating does of opioids reduces pain. Patients on high dose and/or long-term opioid treatment should not have doses abruptly decreased or rapidly tapered.

Table 5: Total Patient Count Over 100 Daily MME by County Where Prescription Filled, 2018-2022

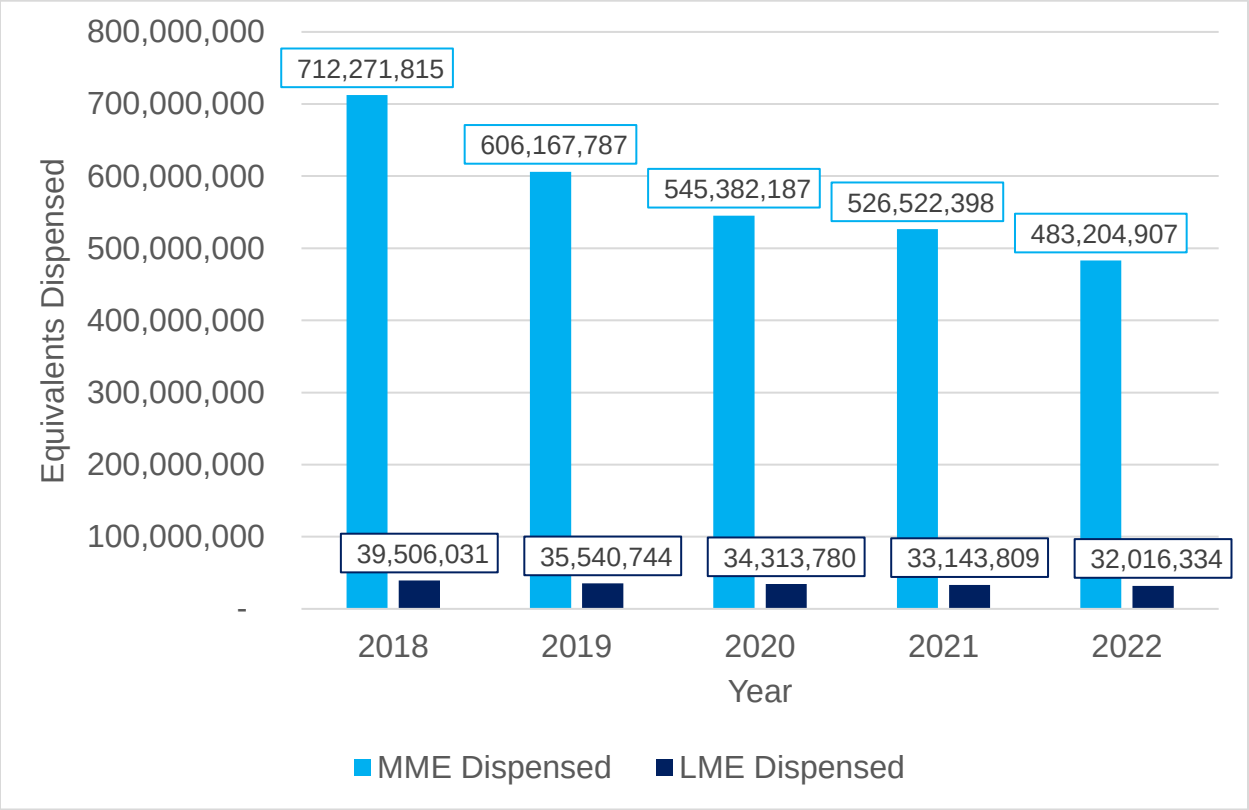
	2018	***2019***	***2020***	***2021***	***2022***
Androscoggin	215	163	122	108	92
Aroostook	72	60	58	49	35
Cumberland	429	310	281	249	203
Franklin	76	53	41	31	24
Hancock	82	64	51	37	23
Kennebec	278	237	195	187	171
Knox	70	43	43	35	30
Lincoln	76	49	59	44	41
Oxford	132	101	98	93	64
Penobscot	281	204	157	140	108
Piscataquis	35	26	23	22	19
Sagadahoc	59	43	47	358	28
Somerset	113	96	77	78	67
Waldo	86	65	66	53	41
Washington	62	44	39	26	22
York	369	299	243	213	185
Unspecified	0	0	1	0	0
Grand Total	2,435	1,857	1,601	1,723	1,153

Source: Maine Office of Behavioral Health

Average Morphine Milligram Equivalents (MMEs) and Lorazepam Milligram Equivalents (LMEs) Dispensed

Morphine milligram equivalents (MMEs) are a standardized measurement equivalent to the amount of morphine in a prescription, per day. Usage of higher MMEs per day is associated with increased risk of fatal and nonfatal accidental overdose as well as increased risk of developing opioid use disorder. Lorazepam milligram equivalents (LMEs) are similarly used to assist in standardizing benzodiazepine doses.

Figure 6: Total MME and LME Dispensed, 2018-2022

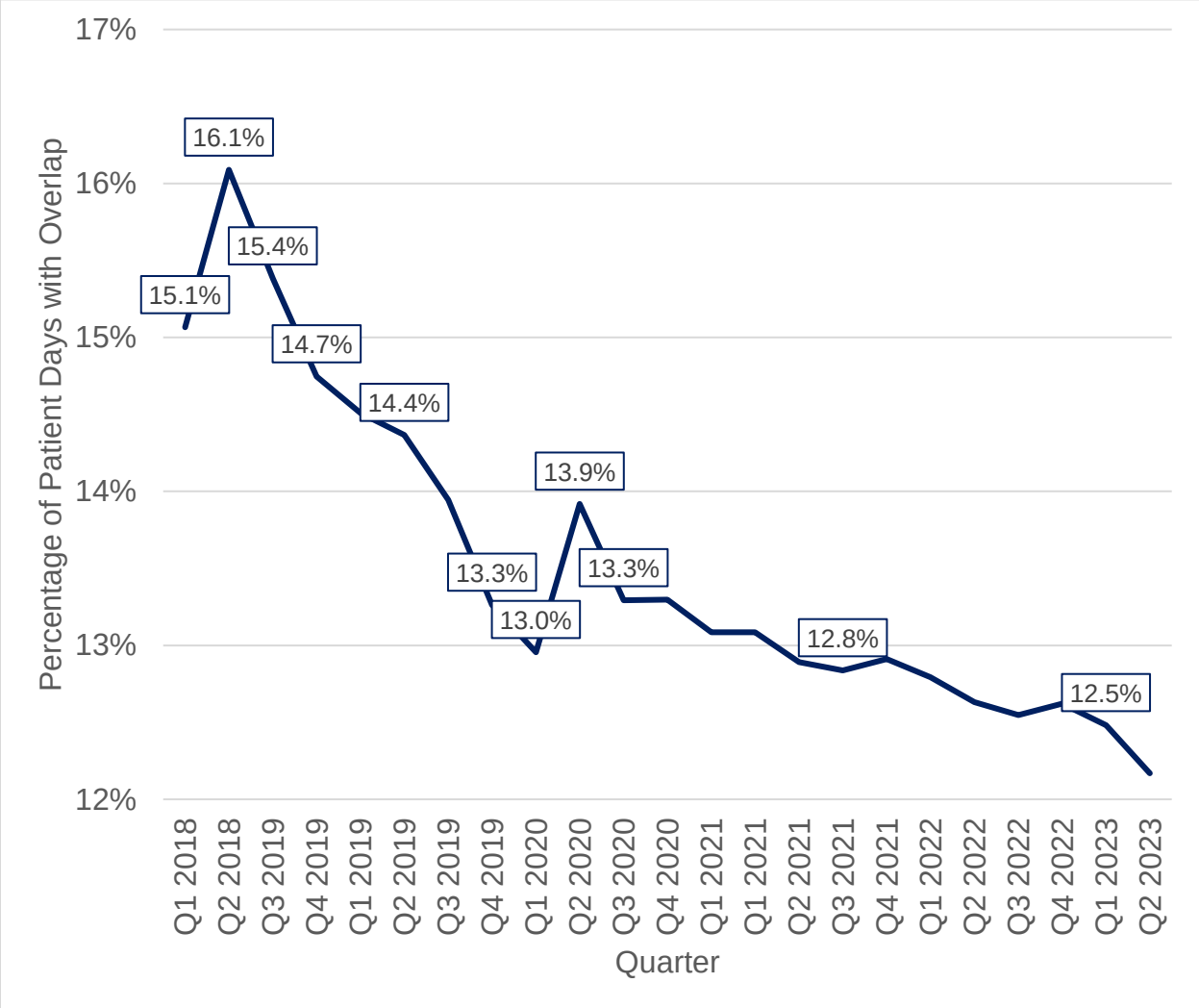


Note: These charts represent the total MMEs and LMEs dispensed for opioid agonists and benzodiazepines and excludes doses dispensed in either milliliter or gram form.
Source: Maine Office of Behavioral Health

Overlapping Opioids and Benzodiazepines

Combining opioids and benzodiazepines can be unsafe because both types of drug sedate users and suppress breathing in addition to impairing cognitive function. Studies have shown that the combination of these two drugs increases the risk of accidental overdose by two to ten times. Maine's PMP provides clinical alerts to prescribers when a patient has overlapping prescriptions for these two types of medications, and also allows public health officials to track the prevalence of this co-prescribing practice. Over time, the percent of overlapping days has decreased (with a slight uptick in Q2 2020 likely explained by increased prescribing related to pandemic stress).

Figure 7: Percent of Patient Days with Overlapping Prescriptions for Opioids and Benzodiazepines, 2018-2023



Source: Maine Office of Behavioral Health

Prescriptions of All Controlled Substances

The most frequently prescribed opioids are included above (Table 4). The other controlled substances most frequently prescribed are:

- Stimulants: dextroamphetamine, methylphenidate, and lisdexamfetamine
- Benzodiazepines/sedatives: lorazepam, clonazepam, zolpidem, alprazolam

Table 6: Most Frequently Prescribed Controlled Substances, 2022

Generic Name	***Prescription Count***	***Quantity***	***Total MME***
buprenorphine HCl/naloxone HCl	277,437	6,438,337	0
dextroamphetamine sulf-saccharate/amphetamine sulf-aspartate	225,702	9,704,645	0
oxycodone HCl	183,789	11,496,089	170,462,973
lorazepam	156,371	6,390,704	0
methylphenidate HCl	145,811	7,001,733	0
hydrocodone bitartrate/acetaminophen	139,560	9,582,976	67,432,524
tramadol HCl	114,873	7,964,609	80,723,654
clonazepam	114,861	6,194,197	0
lisdexamfetamine dimesylate	113,815	3,293,253	0
zolpidem tartrate	81,361	2,764,188	0
alprazolam	79,886	4,124,629	0
diazepam	49,066	1,872,562	0
morphine sulfate	47,304	2,213,310	49,203,257
pregabalin	46,313	3,832,786	0
buprenorphine HCl	40,270	1,484,736	0
dexmethylphenidate HCl	38,879	1,315,207	0
oxycodone HCl/acetaminophen	34,199	2,284,715	22,967,096
hydromorphone HCl	21,185	1,214,132	21,820,720
phentermine HCl	18,076	674,218	0
testosterone cypionate	16,735	68,797	0
fentanyl	14,388	127,656	31,235,101
methadone HCl	13,196	1,215,261	43,953,185
phenobarbital	13,123	1,108,932	0
acetaminophen with codeine phosphate	12,942	706,761	3,468,319
testosterone	10,538	1,210,616	0

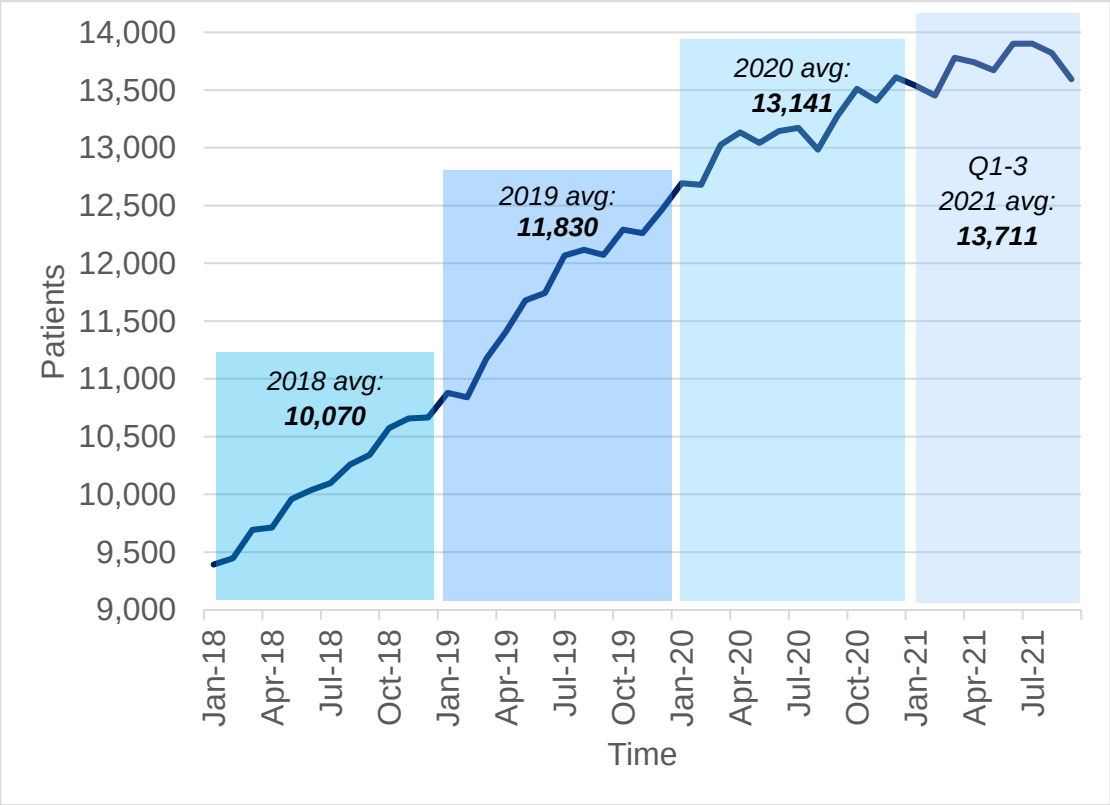
Source: Maine Office of Behavioral Health

Opioid Use Disorder Medication Treatment Summary

Prescription of Buprenorphine for Treatment of Opioid Use Disorder

Buprenorphine is one element of comprehensive treatment plan and more recently, has been used in a 'Low Barrier' or 'Medication First' approach for treatment of Opioid Use Disorder given robust data that the medication decreases mortality within days of initiation.

Figure 8: Number of Unique Patients Receiving At Least One Buprenorphine Prescription Each Month, 2018-2022



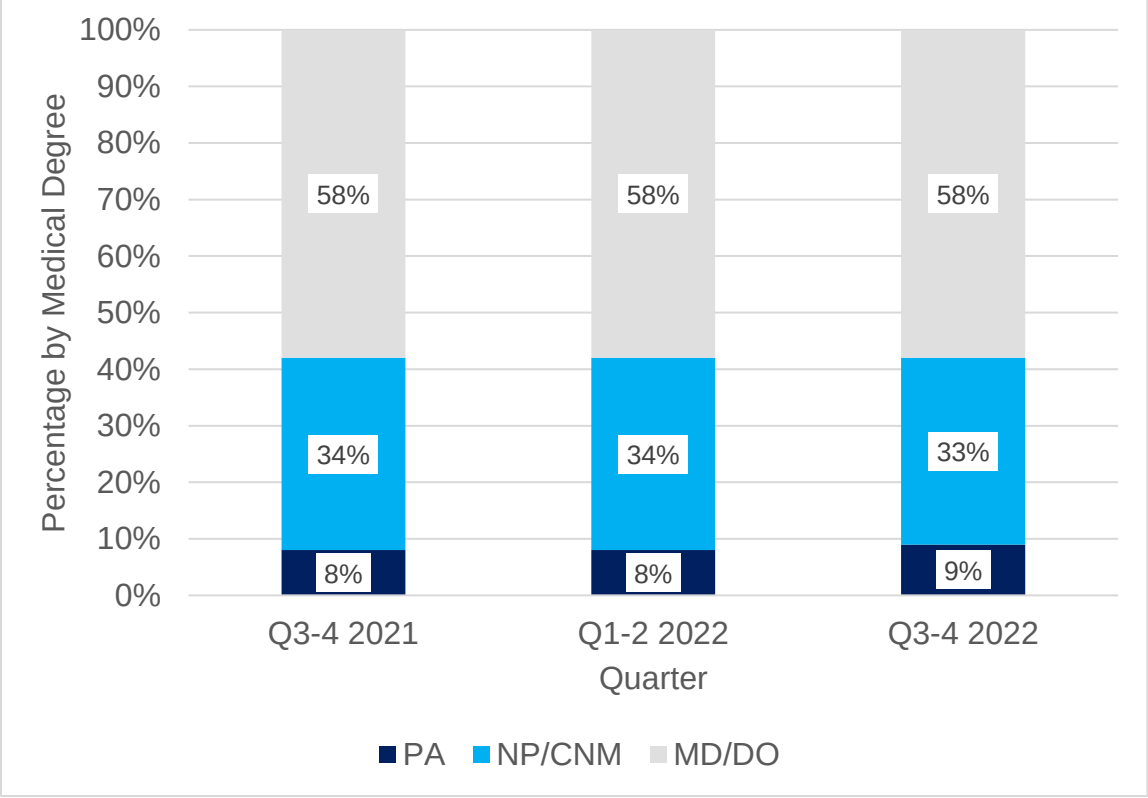
Source: Maine Office of Behavioral Health

Participation in Treatment for Opioid Use Disorder: Patients and Prescribers

Participation in OUD treatment in Maine increased during 2022. Nearly 1,000 more Mainers received buprenorphine prescriptions in the second half of 2022 compared to the first half, a 6% increase. In addition, Mainers enrolled in methadone treatment programs increased by an average of 350 per month in the second half of 2022, an 8% increase.

The total number of buprenorphine prescribers in Maine increased from 2021 to 2022, with the proportion of prescriber types – Physician Assistant (PA), Nurse Practitioner/Certified Nurse Midwife (NP/CNM), and Physician-Allopathic/Osteopathic (MD/DO) remaining constant during this time.

Figure 9: Buprenorphine Prescribers by Prescriber Type, Q3 2021-Q4 2022



The total number of buprenorphine prescribers in Maine increased 8% from 2021 to 2022, with the number of prescribers with less than 10 patients largely driving this trend.

Figure 10: Buprenorphine Prescribers by Number of Patients, Q3 2021-Q4 2022

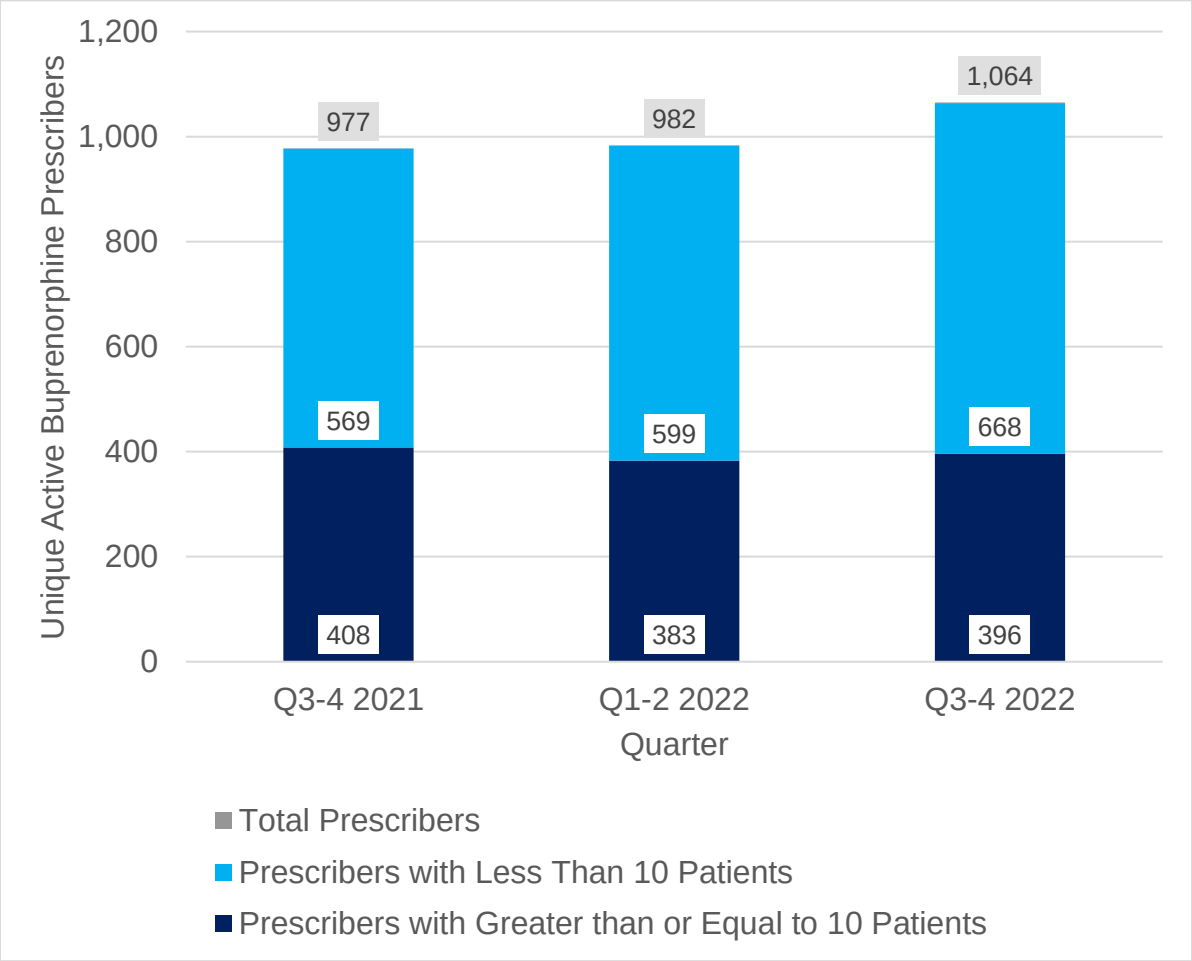


Table 7: Buprenorphine Prescriptions and OTP Enrollment Trends, Q3 2021-Q4 2022

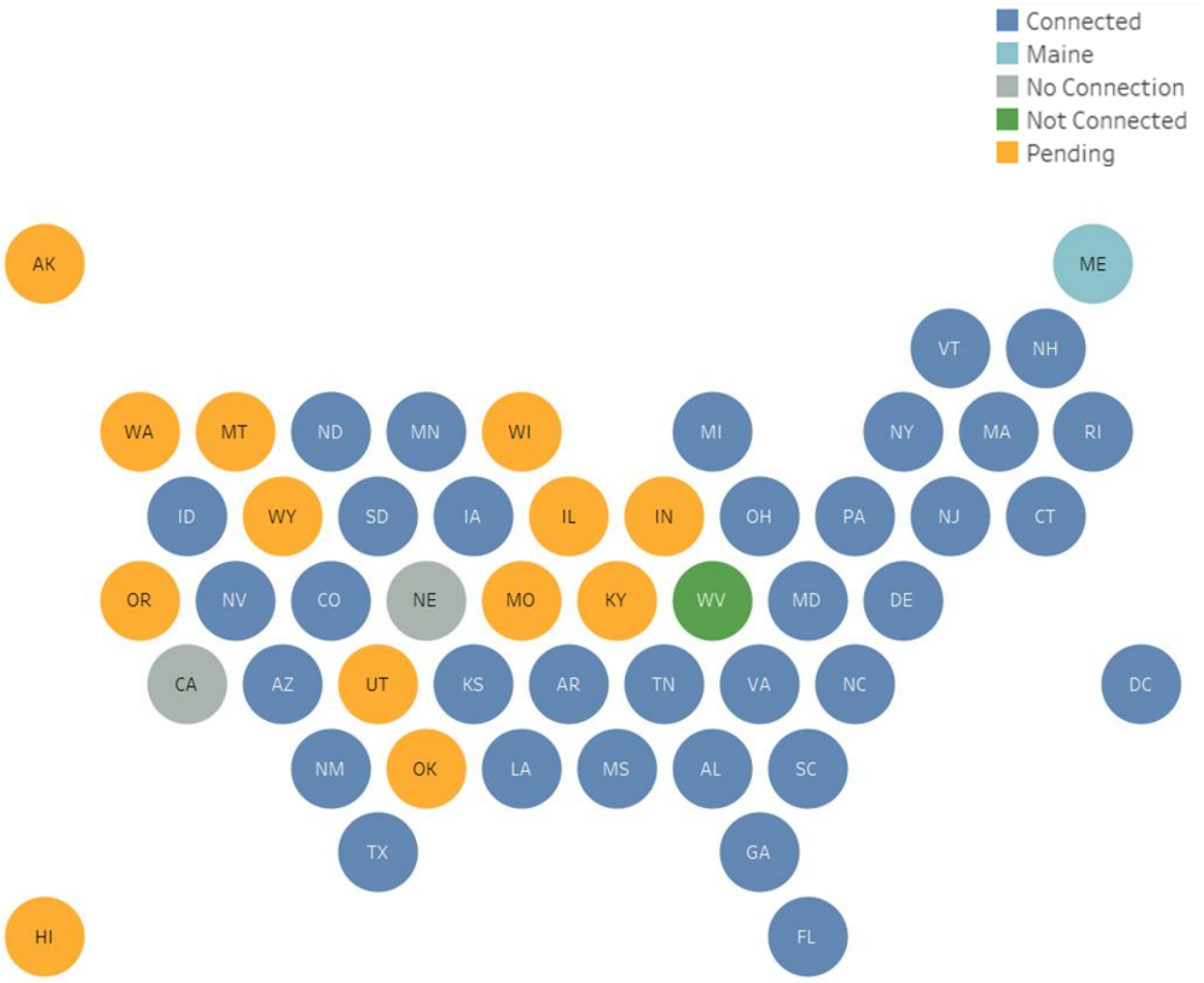
	Average monthly enrollment in methadone treatment programs (OTPs)	***Total unique patients prescribed buprenorphine at least once***
Q3-4 2021	4,026	16,755
Q1-2 2022	4,269	16,654
Q3-4 2022	4,617	17,651

Source: Maine Office of Behavioral Health, Prescription Monitoring Program and State Opioid Treatment Authority

PMP Data Sharing with Other States

The following map represents the implementation of PMP data-sharing agreements with other states and federal health systems. Maine is currently sharing data with 34 other PMPs with a potential for an additional thirteen. The Maine PMP is also connected to Puerto Rico and the Military Health System including the Veterans Administration.

Figure 11: PMP Data-Sharing Agreement Status by State



Source: NABP PMP InterConnect & PMP Gateway Platform