



Prescription Drug Dispensing in Oregon

April 1, 2012 - September 30, 2012

**Schedules II-IV Medications Dispensed in Oregon
Statewide**

Oregon
Health
Authority

PUBLIC HEALTH DIVISION
Prescription Drug Monitoring Program

Prescription Controlled Substance Dispensing in Oregon: April 1, 2012 – September 30, 2012

Selected Schedule II – IV Medications

Statewide Data Report

Prescription Drug Monitoring Program

Center for Prevention and Health Promotion

Oregon Public Health Division

Oregon Health Authority

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Table of Contents

List of Tables	2
List of Figures	3
Executive Summary	4
Data	9
Statewide Population	9
Opiate Narcotic Analgesics	10
Benzodiazepines	19
Prescription Drug Combinations	27
Other Drugs	31
Prescribers Using the System	35
Patients with High Use Profiles	39
Developing Concepts and Data Analysis	40
Discussion	44
Recommendations	44
Glossary of Terms	45

List of Tables

Table 1. Population and Number of Prescriptions by age	9
Table 2. Unique Recipient Count for Opioids by Age Group	10
Table 3. HYDROCODONE by Age Group.....	12
Table 4. OXYCODONE by Age Group	13
Table 5. MORPHINE by Age Group.....	14
Table 6. METHADONE by Age Group	15
Table 7. FENTANYL by Age Group	16
Table 8. HYDROMORPHONE by Age Group.....	17
Table 9. OXYMORPHONE by Age Group	18
Table 10. BUPRENORPHINE by Age Group	19
Table 11. Unique Recipient Count for Benzodiazepines by Age Group.....	20
Table 12. LORAZEPAM by Age Group	21
Table 13. ALPRAZOLAM by Age Group	22
Table 14. CLONAZEPAM by Age Group	23
Table 15. DIAZEPAM by Age Group.....	24
Table 16. TEMAZEPAM by Age Group.....	25
Table 17. ZOLPIDEM by Age Group	26
Table 18. OPIOID and BENZODIAZEPINE Combination by Age Group.....	27
Table 19. OPIOID and ZOLPIDEM/ZALEPLON Combination by Age Group	29
Table 20. Number of people receiving opioid Rx per 1,000 residents by prescription type	30
Table 21. AMPHET by Age Group,	31
Table 22. METHYLPHENIDATE by Age Group	32
Table 23. ACETAMINOPHEN WITH CODEINE by Age Group	33
Table 24. CARISOPRODOL by Age Group.....	34
Table 25. Estimated number of prescribing providers registered for a PDMP account	36
Table 26. Number/percent of prescriptions written by prescriber cohort and number/percent of prescriber cohort with PDMP accounts	37
Table 27. Mean, median, and quartile of providers using the system by discipline.....	38
Table 28. Number of patients filling Rx from four or more prescribers and pharmacies.....	39
Table 29. Number/percent of patients dispensed opioids for three or more consecutive months	41
Table 30. Controlled substance dispensation by CCO.....	42

List of Figures

Figure 1. Number of residents receiving an opioid by county.....	11
Figure 2 Number of residents receiving an opioid and benzodiazepine by county	28
Figure 3. Number of providers with PDMP system accounts by discipline.....	35
Figure 4. Percentage of total CS II-IV prescriptions written by prescriber cohort.....	37
Figure 5. Number of residents using four or more prescribers and pharmacies by county	39
Figure 6. Coordinated Care Organization service are density	43

Executive Summary

In 2009, the Oregon Legislature passed Senate Bill 355 mandating the Oregon Health Authority to develop a Prescription Drug Monitoring Program (PDMP). The program became operational in September 2011. The PDMP is an electronic Web-based data system that collects data on the controlled prescription medications dispensed in the state by retail pharmacies.

Controlled substance prescription information collected by the PDMP includes opioids, sedative hypnotics, benzodiazepines, stimulants, and other drugs. Opioids are the most frequently prescribed controlled substance. Opioids are prescribed to control pain – pain that is the result of injury, ambulatory surgery, inpatient surgery, cancer care, pain that is a chronic problem, and end-of-life care. It is helpful to keep in mind the variety of conditions that these medicines are prescribed for when examining the PDMP data because the PDMP data do not include clinical diagnostic information. The following information can provide the reader with a frame of reference to use when considering the magnitude of medically necessary prescription of controlled substances:

- Twenty percent of Oregonians (about 760,000 people) live with chronic pain,¹
- More than 100,000 injuries are treated in emergency departments each year,²
- About 5.5 percent of Oregonians (213,000 people) had surgical visits,³
- An estimated 18 percent of adults ages 18 and older (about 500,000 people) have an anxiety disorder,⁴ and
- About 8,000 Oregonians die due to cancer each year and about 20,000 new cases of cancer are diagnosed among Oregonians each year.⁵

The statewide PDMP data provided below – and additional 36 county-level reports – examine the dispensing of the most-often prescribed controlled substances and selected prescription drugs.

Statewide Findings

Between April 1, 2012, and September 30, 2012:

More than 3.4 million prescriptions for Schedules II-IV controlled substances were dispensed by retail pharmacies to Oregonians; of these, more than 1.8 million prescriptions were for opioids.

¹ Institute of Medicine, 2011. *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research*. Washington D.C.: The National Academies Press http://www.nap.edu/catalog.php?record_id=13172

² Estimate from unpublished analysis of Oregon All Payer All Claims healthcare data, 2010, Oregon Health Authority, Injury and Violence Prevention Program, Portland.

³ Russo, C.A. (Thomson Reuters), Elixhauser, A. (AHRQ), Steiner, C. (AHRQ), and Wier, L. (Thomson Reuters). *Hospital-Based Ambulatory Surgery, 2007*. HCUP Statistical Brief #86. February 2010. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb86.pdf>.

⁴ Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). *Archives of General Psychiatry*, 2005 Jun; 62(6):617-27.

⁵ Oregon Cancer Registry

More than 586,000 Oregonians received at least one prescription opiate. These patients received an average of three opiate prescriptions – 152 people per 1,000 residents received an opiate prescription (Table 2).

More than 950,000 prescriptions for benzodiazepines were dispensed by retail pharmacies to more than 300,000 people (Table 11).

More than 105,000 Oregonians received prescriptions for both an opiate and a benzodiazepine (Table 18).

Seventy-eight percent of the total Schedule II-IV controlled substance prescriptions dispensed were prescribed by 4,000 prescribers (Figure 4). Among those 4,000 prescribers, 55 percent were registered PDMP system users.

Threshold measures that indicate potential drug seeking indicate: 4,640 patients filled prescriptions from at least 4 different prescribers and at 4 different pharmacies (Table 28).

Background

Oregon-licensed retail pharmacies are required to submit prescription information to the PDMP system for all Schedule II – IV controlled substances dispensed. Prescribers are permitted to access PDMP information on their patients. Pharmacists are permitted to access PDMP information on their customers. The intent of the PDMP is to help healthcare providers improve care for their patients and prevent some of the problems associated with controlled substances.

The Oregon PDMP provides authenticated system users who are licensed to prescribe schedule II, III, and IV drugs electronic 24-hour, seven-day-a-week access to patient level data on controlled substances dispensed to the patient by licensed pharmacies. The PDMP data allow a health care provider to see a report of the medicines that are dispensed to his or her patient and prescribed by any additional health care providers who serve his or her patient.

Health care providers can examine the purchasing history of a patient to monitor and discuss controlled substance use as part of pain management and screen for substance misuse and abuse. Opioids are the class of medicines that has the highest potential for overdose, misuse, dependence, and abuse. Other classes of controlled substance medicines are commonly prescribed in combination with opioids. The PDMP is a useful tool for health care providers who prescribe controlled substances as part of a patient treatment plan. The evaluation results of health care provider use of the system in the early implementation of the PDMP are not the topic of this report. Information on health care provider system use is the topic of an upcoming report.

Introduction

Patient use of controlled prescribed medications is an important part of medically necessary treatment plans for many health problems. Patient use is monitored by health care providers because these medicines place patients at risk for overdose, side effects, potentiation when combined with alcohol and/or other drugs, risk for physical dependence, and risk for developing patterns of drug abuse.

Controlled substance prescription information collected by the PDMP includes opioids, sedative hypnotics, benzodiazepines, stimulants, and other drugs. Opioids are the most frequently prescribed controlled substance. Opioids are prescribed to control pain – pain that is the result of injury, ambulatory surgery, inpatient surgery, cancer care, pain that is a chronic problem, and end-of-life care. It is helpful to keep in mind the variety of conditions that these medicines are prescribed for when examining the PDMP data because the PDMP data do not include diagnostic information. The following information can provide the reader with a frame of reference to use when considering the magnitude of medically necessary prescribing of controlled substances:

- Twenty percent of Oregonians (about 760,000 people) live with chronic pain,⁶
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- About 5.5 percent of Oregonians (213,000 people) had surgical visits,⁸
- About 18 percent of adults ages 18 and older (about 500,000 people) have an anxiety disorder,⁹ and
- About 8,000 Oregonians die due to cancer each year and about 20,000 new cases of cancer are diagnosed among Oregonians each year.¹⁰

Certainly, not all of the individuals experiencing these and other conditions receive controlled substances throughout an entire year. However, many patients rely on controlled substances to heal from injury and surgery, to endure cancer and end-of-life pain, to mitigate symptoms of mental disorders, and to control chronic pain.

The statewide aggregated data report – and 36 county level reports – can be used to inform, develop, and implement population-based prevention approaches to reduce prescription drug overdose, such as public information campaigns and clinical guidance.

⁶ Institute of Medicine, 2011. *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research*. Washington D.C.: The National Academies Press http://www.nap.edu/catalog.php?record_id=13172

⁷ Estimate from unpublished analysis of Oregon All Payer All Claims healthcare data, 2010, Oregon Health Authority, Injury and Violence Prevention Program, Portland.

⁸ Russo, C.A. (Thomson Reuters), Elixhauser, A. (AHRQ), Steiner, C. (AHRQ), and Wier, L. (Thomson Reuters). *Hospital-Based Ambulatory Surgery, 2007*. HCUP Statistical Brief #86. February 2010. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb86.pdf>.

⁹ Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). *Archives of General Psychiatry*, 2005 Jun; 62(6):617-27.

¹⁰ Oregon Cancer Registry

Data Limitations

Diagnosis information is not included with the prescription information in the PDMP data. This limits any conclusions that could be drawn with respect to the underlying problems that medicines are prescribed to address.

The PDMP statute directs retail pharmacies dispensing schedule II-IV drugs to submit prescription data to the Oregon Health Authority within seven days of dispensing. Pharmacies began submitting data in June 2011. By April 2012, 97 percent of all pharmacies were submitting data. The compliance with data submission increased to 98 percent by the end of September 2012.

Data submitted by pharmacies can contain errors. Each data submission is checked for errors and if the data contains errors it is sent back to the pharmacy to be corrected and resubmitted. However, not all errors are found or corrected.

The sex of the patient, method of payment, diagnosis, days supplied, and refill information are not collected as they are not included in the data variables allowed in statute.

The system is not able to convert prescriptions to morphine equivalent doses (MEDs), so dosage information is omitted from these reports to avoid possible confusion.

Data in table cells containing counts of less than ten are suppressed. This is done to protect the privacy of individuals when reporting county-specific data for each of Oregon's 36 counties.

Discussion

Prescription drug overdose, dependence, and addiction are serious public health problems. The PDMP provides health care providers with a tool to identify and address these problems. The PDMP mission is to use data to improve health care by offering health care providers and pharmacists information about prescription controlled substances, reduce prescription overdose, decrease “doctor shopping” – a patient obtaining controlled substances from multiple health care providers without the prescribers’ knowledge of the other prescriptions – and decrease misuse of prescription controlled substances. A balanced approach to this work includes an understanding of the need to preserve access to medicines for the management of pain while decreasing the misuse of prescription controlled substances. The PDMP data workgroup welcomes input and questions.

Recommendations

- Assure that 80 percent of the top 4,000 prescribers have system accounts.
- Produce and disseminate a tool for system users on how to use a PDMP report with a patient.
- Disseminate information about the PDMP system and helpful resources through licensing boards, health care provider associations, and health systems.
- Encourage health systems to adopt and implement guidelines for use of the PDMP.

- Analyze data by CCO region to inform policy and practice.
- Use geocoding and mapping in future analysis.
- Analyze data in future reports to reflect acute versus chronic condition prescribing.
- Analyze data using descriptive statistical modeling to better understand where prescriptions for controlled substances are correlated with hospitalizations and deaths.

Data

Statewide Population

Table 1. Population and Number of Prescriptions by age, Statewide, OR, 4/01/12 to 09/30/12

Age (in years)	Population*	Total number of prescriptions
1 - 14	716,384	114,585
15 - 24	507,315	199,824
25 - 34	528,317	389,254
35 - 44	505,962	498,964
45 - 54	534,643	719,057
55 - 64	512,814	748,210
65 - 74	304,927	396,710
75 - 84	169,325	189,242
85+	77,938	84,147
TOTAL	3,857,625	3,339,993
*2011 population estimates, Population Research Center, Portland State University.		

Opiate Narcotic Analgesics

Table 2. Unique Recipient Count for Opioids by Age Group, Statewide, OR, 4/01/12 to 09/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	9,951	12,802	1.3	13.9	17.9
15 - 24	59,375	99,866	1.7	117.0	196.9
25 - 34	88,421	217,629	2.5	167.4	411.9
35 - 44	88,198	271,340	3.1	174.3	536.3
45 - 54	108,184	403,357	3.7	202.3	754.4
55 - 64	110,744	412,020	3.7	216.0	803.4
65 - 74	68,912	224,302	3.3	226.0	735.6
75 - 84	36,129	109,652	3.0	213.4	647.6
85+	16,748	49,413	3.0	214.9	634.0
TOTAL	586,662	1,800,381	3.1	152.1	466.7
<i>Opioids include: Hydrocodone, Oxycodone, Morphine, Methadone, Fentanyl, and Hydromorphone.</i>					

Notes on Table Information

Column 2 includes data for: Prescription recipients – these are number of **unique individuals who received prescriptions** in six months

Column 3 includes data for: Number of **prescriptions dispensed in the area** – either state or county in six months

Column 4 includes data for: Number of **prescriptions dispensed per prescription recipient** (original and refills) in six months

Column 5 includes data for: A rate for prescription recipients – this rate is the number of **people** who received a prescription per 1,000 residents.

Column 6 includes data for: A rate for prescriptions dispensed – this rate is the number of **prescriptions that individuals** received per 1,000 residents.

Figure 1. Number of residents/10,000 receiving an opioid by county, OR, 4/01/12 to 09/30/12

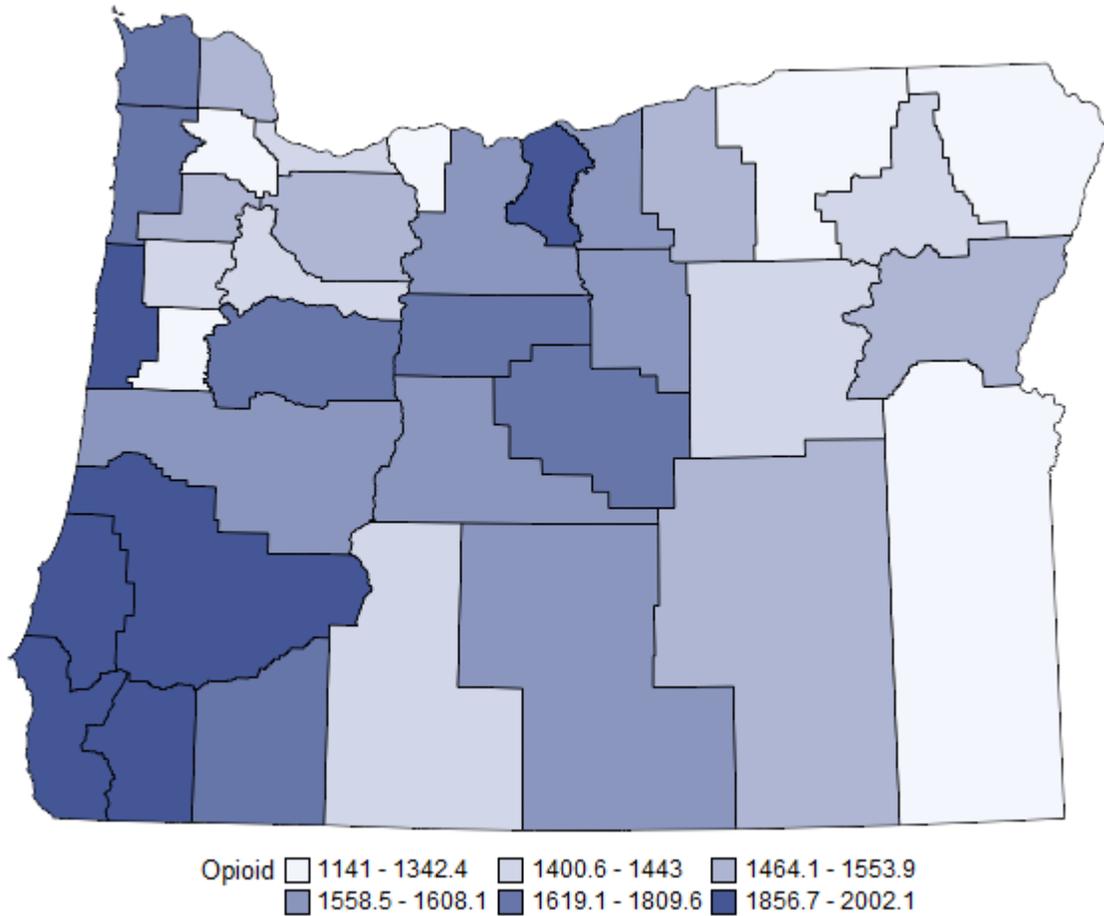


Table 3. HYDROCODONE by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	8,374	10,232	1.2	11.7	14.3
15 - 24	44,486	65,087	1.5	87.7	128.3
25 - 34	63,414	123,759	2.0	120.0	234.3
35 - 44	62,588	145,313	2.3	123.7	287.2
45 - 54	75,642	203,672	2.7	141.5	380.9
55 - 64	77,165	209,944	2.7	150.5	409.4
65 - 74	49,268	124,465	2.5	161.6	408.2
75 - 84	26,347	65,198	2.5	155.6	385.0
85+	11,469	28,309	2.5	147.2	363.2
TOTAL	418,753	975,979	2.3	108.6	253.0

Hydrocodone Hydrocodone is available only in combination with other ingredients, and different combination products are prescribed for different uses. Some hydrocodone products are used to relieve moderate to severe pain. Other hydrocodone products are used to relieve cough. Hydrocodone is in a class of medications called opiate narcotic analgesics and in a class of medications called antitussives. Hydrocodone relieves pain by changing the way the brain and nervous system respond to pain. Hydrocodone relieves cough by decreasing activity in the part of the brain that causes coughing.

Brand names: Vicodin, Lorcet, Lortab, Norco

Table 4. OXYCODONE by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	1,699	2,169	1.3	2.4	3.0
15 - 24	20,006	32,240	1.6	39.4	63.6
25 - 34	34,102	77,762	2.3	64.5	147.2
35 - 44	33,581	91,752	2.7	66.4	181.3
45 - 54	40,835	132,351	3.2	76.4	247.6
55 - 64	39,525	126,844	3.2	77.1	247.3
65 - 74	23,081	64,418	2.8	75.7	211.3
75 - 84	10,293	26,822	2.6	60.8	158.4
85+	4,009	10,654	2.7	51.4	136.7
TOTAL	207,131	565,012	2.7	53.7	146.5

Oxycodone Oxycodone is used to relieve moderate to severe pain. Oxycodone is in a class of medications called opiate narcotic analgesics. It works by changing the way the brain and nervous system respond to pain.

Brand names: Dazidox, Endocet, ETH-Oxydose, Endocodone, Oxecta, Oxy IR, Oxycontin, Oxyfast, Percocet, Percolone, Roxicodone

Table 5. MORPHINE by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	65	128	2.0	0.1	0.2
15 - 24	313	713	2.3	0.6	1.4
25 - 34	1,332	5,460	4.1	2.5	10.3
35 - 44	2,863	13,594	4.7	5.7	26.9
45 - 54	6,139	31,313	5.1	11.5	58.6
55 - 64	7,543	36,372	4.8	14.7	70.9
65 - 74	4,333	17,532	4.0	14.2	57.5
75 - 84	2,770	8,083	2.9	16.4	47.7
85+	2,424	4,721	1.9	31.1	60.6
TOTAL	27,782	117,916	4.2	7.2	30.6

Morphine Morphine is used to relieve moderate to severe pain. Morphine long-acting tablets and capsules are only used by patients who are expected to need medication to relieve moderate to severe pain around-the-clock for longer than a few days. Morphine is in a class of medications called opiate narcotic analgesics. It works by changing the way the body senses pain.

Brand names: Avinza, Kadian, MS Contin, Oramorph, Roxanol

Table 6. METHADONE* by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	20	70	3.5	0.0	0.1
15 - 24	138	515	3.7	0.3	1.0
25 - 34	1,163	5,205	4.5	2.2	9.9
35 - 44	2,147	10,286	4.8	4.2	20.3
45 - 54	3,687	18,389	5.0	6.9	34.4
55 - 64	3,819	18,779	4.9	7.4	36.6
65 - 74	1,427	6,319	4.4	4.7	20.7
75 - 84	545	2,086	3.8	3.2	12.3
85+	268	885	3.3	3.4	11.4
TOTAL	13,214	62,534	4.7	3.4	16.2

**Does not include methadone used to treat addiction.*

Methadone Methadone is used to relieve moderate to severe pain that has not been relieved by non-narcotic pain relievers. It also is used to prevent withdrawal symptoms in patients who were addicted to opiate drugs and are enrolled in treatment programs in order to stop taking or continue not taking the drugs. Methadone is in a class of medications called opiate narcotic analgesics. Methadone works to treat pain by changing the way the brain and nervous system respond to pain. It also works as a substitute for opiate drugs of abuse by producing similar effects and preventing withdrawal symptoms in people who have stopped using these drugs. Methadone has a very long half-life (stays in the body a long time).

Brand names: Dolophine, Methadose

Table 7. FENTANYL by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	73	145	2.0	0.1	0.2
15 - 24	76	255	3.4	0.1	0.5
25 - 34	431	1,832	4.3	0.8	3.5
35 - 44	1,009	4,757	4.7	2.0	9.4
45 - 54	1,963	9,248	4.7	3.7	17.3
55 - 64	2,476	11,257	4.5	4.8	22.0
65 - 74	1,898	7,317	3.9	6.2	24.0
75 - 84	1,573	5,754	3.7	9.3	34.0
85+	1,198	4,339	3.6	15.4	55.7
TOTAL	10,697	44,904	4.2	2.8	11.6

Fentanyl Fentanyl is a powerful synthetic opiate analgesic similar to but more potent than morphine. It is typically used to treat patients with severe pain, or to manage pain after surgery. It is also sometimes used to treat people with chronic pain who are physically tolerant to opiates. Fentanyl is in a class of medications called opiate narcotic analgesics. It works by changing the way the brain and nervous system respond to pain.

Brand names: Abstral, Actiq, Duragesic, Fentora, Onsolis, Sublimaze

Table 8. HYDROMORPHONE by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	37	58	1.6	0.1	0.1
15 - 24	591	1,056	1.8	1.2	2.1
25 - 34	1,668	3,610	2.2	3.2	6.8
35 - 44	2,258	5,638	2.5	4.5	11.1
45 - 54	3,033	8,384	2.8	5.7	15.7
55 - 64	3,207	8,824	2.8	6.3	17.2
65 - 74	1,848	4,251	2.3	6.1	13.9
75 - 84	795	1,710	2.2	4.7	10.1
85+	231	505	2.2	3.0	6.5
TOTAL	13,668	34,036	2.5	3.5	8.8

Hydromorphone Hydromorphone is used to relieve moderate to severe pain. It also may be used to decrease coughing. Hydromorphone is in a class of medications called opiate narcotic analgesics and in a class of medications called antitussives.

Brand names: Dilaudid, Exalgo, Hydrostat, Palladone

Table 9. OXYMORPHONE by Age Group, Statewide, OR, 4/1/2012 to 9/30/2012

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	0	0	0	0	0
15 - 24	17	100	5.9	0.0	0.2
25 - 34	102	404	4.0	0.2	0.8
35 - 44	217	833	3.8	0.4	1.6
45 - 54	300	1,411	4.7	0.6	2.6
55 - 64	300	1,413	4.7	0.6	2.8
65 - 74	119	439	3.7	0.4	1.4
75 - 84	38	140	3.7	0.2	0.8
85+	18	68	3.8	0.2	0.9
TOTAL	1,111	4,808	4.3	0.3	1.2

Oxymorphone Oxymorphone is an opioid pain medication. Oxymorphone is in a class of medications called opiate narcotic analgesics. It is used to treat moderate to severe pain. The extended-release form of this medication is for around-the-clock treatment of pain.

Brand names: Opana

Table 10. BUPRENORPHINE by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	11	18	<10	<10	0
15 - 24	929	4,470	4.8	1.8	8.8
25 - 34	1,909	13,283	7.0	3.6	25.1
35 - 44	1,351	8,230	6.1	2.7	16.3
45 - 54	1,231	5,887	4.8	2.3	11.0
55 - 64	877	4,257	4.9	1.7	8.3
65 - 74	237	871	3.7	0.8	2.9
75 - 84	73	173	<10	<10	1.0
85+	43	113	<10	<10	1.4
TOTAL	6,661	37,302	5.6	1.7	9.7

Buprenorphine Buprenorphine is a semi-synthetic, partial opioid agonist that is used to treat opioid addiction in higher dosages and to control moderate acute pain in non-opioid-tolerant individuals in lower dosages. Buprenorphine is a narcotic analgesic. It works by working in the brain and nervous system to decrease pain. A combination with other CNS depressants, such as alcohol, benzodiazepines, barbiturates, z-drugs, GHB, and any other substance that depresses the central nervous system, should be avoided.

Brand names: Suboxone, Subutex, Buprenex

Benzodiazepines

Table 11. Unique Recipient Count for Benzodiazepines by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	3,653	6,282	1.7	5.1	8.8
15 - 24	13,824	31,540	2.3	27.2	62.2
25 - 34	33,992	96,821	2.8	64.3	183.3
35 - 44	46,163	146,176	3.2	91.2	288.9
45 - 54	62,546	216,480	3.5	117.0	404.9
55 - 64	69,240	234,715	3.4	135.0	457.7
65 - 74	42,592	128,848	3.0	139.7	422.6
75 - 84	21,629	62,848	2.9	127.7	371.2
85+	10,298	28,123	2.7	132.1	360.8
TOTAL	303,937	951,833	3.1	78.8	246.7
<i>Benzodiazepines include: Alprazolam, Clonazepam, Diazepam, Lorazepam, Temazepam, and Zolpidem.</i>					
<i>*Cell sizes less than 10 for prescription recipient count have been suppressed.</i>					

Table 12. LORAZEPAM by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	738	1,163	1.6	1.0	1.6
15 - 24	4,772	8,089	1.7	9.4	15.9
25 - 34	10,092	20,869	2.1	19.1	39.5
35 - 44	12,561	29,111	2.3	24.8	57.5
45 - 54	16,425	43,479	2.6	30.7	81.3
55 - 64	17,933	47,652	2.7	35.0	92.9
65 - 74	12,174	30,046	2.5	39.9	98.5
75 - 84	7,324	17,582	2.4	43.3	103.8
85+	4,740	10,275	2.2	60.8	131.8
TOTAL	86,759	208,266	2.4	22.5	54.0

Lorazepam Lorazepam is used to relieve anxiety. It is also used to treat irritable bowel syndrome, epilepsy, insomnia, and nausea and vomiting from cancer treatment and to control agitation caused by alcohol withdrawal. Lorazepam is in a class of medications called benzodiazepines. It works by slowing activity in the brain to allow for relaxation.

Brand names: Ativan

Table 13. ALPRAZOLAM by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	908	1,230	1.4	1.3	1.7
15 - 24	3,189	6,751	2.1	6.3	13.3
25 - 34	9,096	22,401	2.5	17.2	42.4
35 - 44	11,651	31,184	2.7	23.0	61.6
45 - 54	14,958	43,314	2.9	28.0	81.0
55 - 64	15,446	44,277	2.9	30.1	86.3
65 - 74	8,682	22,354	2.6	28.5	73.3
75 - 84	4,262	11,243	2.6	25.2	66.4
85+	1,766	4,578	2.6	22.7	58.7
TOTAL	69,958	187,332	2.7	18.1	48.6

Alprazolam Alprazolam is used to treat anxiety disorders and panic disorder (sudden, unexpected attacks of extreme fear and worry about these attacks). Alprazolam is in a class of medications called benzodiazepines. It works by decreasing abnormal excitement in the brain.

Brand names: Xanax

Table 14. CLONAZEPAM by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	471	1,345	2.9	0.7	1.9
15 - 24	2,778	7,640	2.8	5.5	15.1
25 - 34	6,667	21,407	3.2	12.6	40.5
35 - 44	8,422	29,051	3.4	16.6	57.4
45 - 54	10,982	40,657	3.7	20.5	76.0
55 - 64	10,671	38,308	3.6	20.8	74.7
65 - 74	5,573	17,771	3.2	18.3	58.3
75 - 84	2,303	6,736	2.9	13.6	39.8
85+	775	2,259	2.9	9.9	29.0
TOTAL	48,642	165,174	3.4	12.6	42.8

Clonazepam Clonazepam is used alone or in combination with other medications to control certain types of seizures. It is also used to relieve panic attacks. Clonazepam is in a class of medications called benzodiazepines. It works by decreasing abnormal electrical activity in the brain.

Brand names: Klonopin, Klonopin Wafer

Table 15. DIAZEPAM by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	1,630	2,340	1.4	2.3	3.3
15 - 24	2,260	3,407	1.5	4.5	6.7
25 - 34	5,151	9,699	1.9	9.7	18.4
35 - 44	6,902	14,188	2.1	13.6	28.0
45 - 54	9,301	22,403	2.4	17.4	41.9
55 - 64	9,617	22,871	2.4	18.8	44.6
65 - 74	5,518	11,310	2.0	18.1	37.1
75 - 84	2,328	4,693	2.0	13.7	27.7
85+	805	1,615	2.0	10.3	20.7
TOTAL	43,512	92,526	2.1	11.3	24.0

Diazepam Diazepam is used to relieve anxiety, muscle spasms, and seizures and to control agitation caused by alcohol withdrawal. Diazepam is also used to treat irritable bowel syndrome and panic attacks. Diazepam is in a class of medications called benzodiazepines.

Brand names: Valium

Table 16. TEMAZEPAM by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	<10	26	<10	<10	0.0
15 - 24	177	358	2.0	0.3	0.7
25 - 34	541	1,373	2.5	1.0	2.6
35 - 44	1,076	3,033	2.8	2.1	6.0
45 - 54	2,013	6,296	3.1	3.8	11.8
55 - 64	3,005	9,561	3.2	5.9	18.6
65 - 74	2,265	6,635	2.9	7.4	21.8
75 - 84	1,555	4,663	3.0	9.2	27.5
85+	848	2,637	3.1	10.9	33.8
TOTAL	11,488	34,582	3.0	3.0	9.0

Temazepam Temazepam is used on a short-term basis to treat insomnia. Temazepam is in a class of medications called benzodiazepines. It works by slowing activity in the brain to allow sleep.

Brand names: Restoril

Table 17. ZOLPIDEM by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	79	178	2.3	0.1	0.2
15 - 24	2,354	5,295	2.2	4.6	10.4
25 - 34	7,870	21,072	2.7	14.9	39.9
35 - 44	13,714	39,609	2.9	27.1	78.3
45 - 54	19,788	60,331	3.0	37.0	112.8
55 - 64	23,873	72,046	3.0	46.6	140.5
65 - 74	14,335	40,732	2.8	47.0	133.6
75 - 84	6,329	17,931	2.8	37.4	105.9
85+	2,316	6,759	2.9	29.7	86.7
TOTAL	90,658	263,953	2.9	23.5	68.4

Zolpidem Zolpidem is used to treat insomnia. Zolpidem belongs to a class of medications called sedative-hypnotics. It works by slowing activity in the brain to allow sleep.

Brand names: Ambien, Zolpimist

Prescription Drug Combinations

Table 18. OPIOID and BENZODIAZEPINE Combination by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving combination, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	337	724	2.1	0.5	1.0
15 - 24	4,298	12,011	2.8	8.5	23.7
25 - 34	12,173	48,563	4.0	23.0	91.9
35 - 44	16,600	74,742	4.5	32.8	147.7
45 - 54	23,514	118,864	5.1	44.0	222.3
55 - 64	23,970	115,433	4.8	46.7	225.1
65 - 74	13,708	55,951	4.1	45.0	183.5
75 - 84	6,824	24,116	3.5	40.3	142.4
85+	3,721	11,237	3.0	47.7	144.2
TOTALS	105,145	461,641	4.4	27.3	119.7
<p><i>Opioids include: Hydrocodone, Oxycodone, and Morphine. Benzodiazepines include: Alprazolam, Clonazepam, Diazepam, and Lorazepam. Excludes Zolpidem that represents a chemically different class of drugs than benzodiazepines, and in which the risk of combination with opioids is thought to be somewhat lower.</i></p> <p><i>*Cell sizes less than 10 for prescription recipient count have been suppressed.</i></p>					

Figure 2. Number of residents/10,000 receiving an opioid and benzodiazepine by county, OR, 4/1/12 to 9/30/12

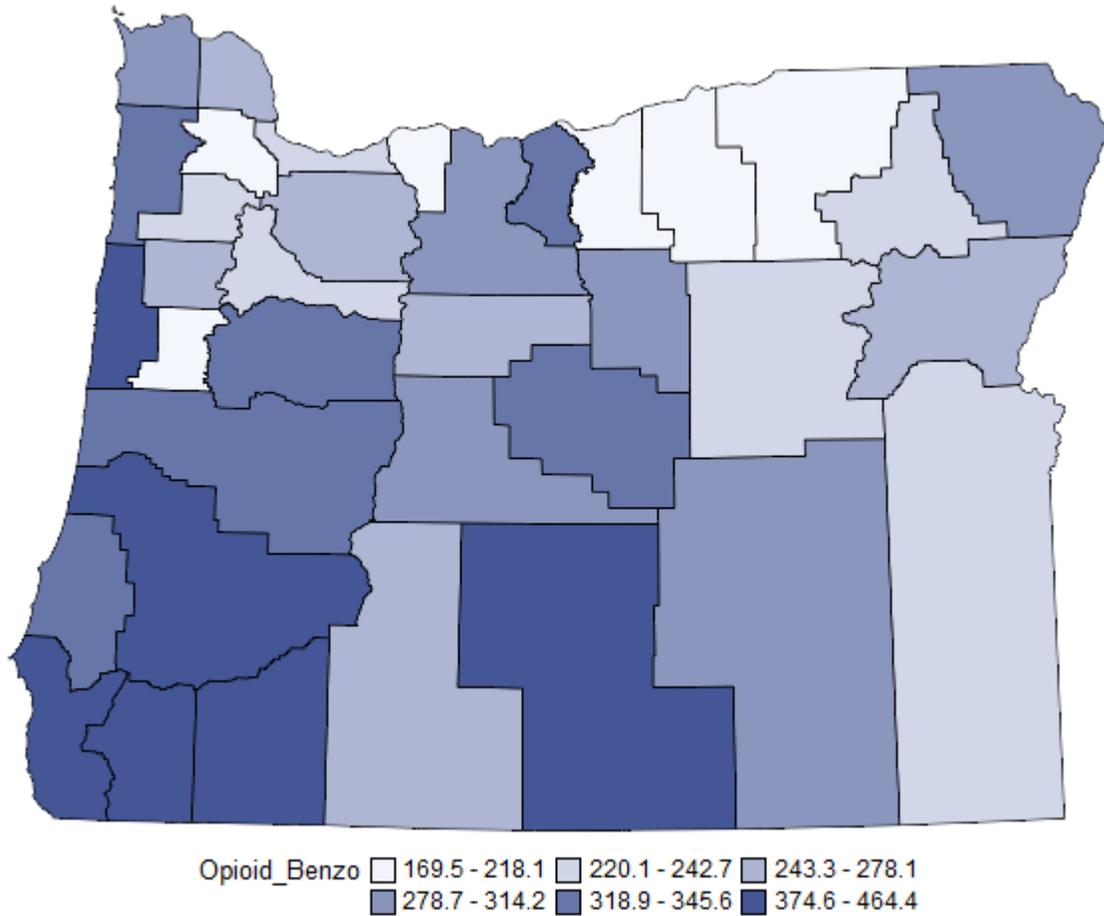


Table 19. OPIOID and ZOLPIDEM/ZALEPLON Combination by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving combination, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	17	51	3.0	0.0	0.1
15 - 24	810	2,869	3.5	1.6	5.7
25 - 34	3,234	13,893	4.3	6.1	26.3
35 - 44	5,436	24,206	4.5	10.7	47.8
45 - 54	8,431	40,593	4.8	15.8	75.9
55 - 64	9,803	43,746	4.5	19.1	85.3
65 - 74	6,074	23,560	3.9	19.9	77.3
75 - 84	2,557	9,074	3.5	15.1	53.6
85+	867	2,794	3.2	11.1	35.8
TOTALS	37,229	160,786	4.3	9.7	41.7
<i>Opioids include: Hydrocodone, Oxycodone, and Morphine. Benzodiazepines include: Zolpidem and Zaleplon.</i>					
<i>*Cell sizes less than 10 for prescription recipient count have been suppressed.</i>					

Table 20. Number of people receiving opioid prescriptions per 1,000 residents, by prescription type, county and statewide, OR, 4/1/12 to 9/30/12

	All Opioid Rate	Hydro-codone Rate	Oxycodone Rate	Morphine Rate	Methadone Rate*	Hydromor-phone Rate	Opioid & Benzo Rate
Statewide	152.1	108.6	53.7	7.2	3.4	3.5	27.3
Baker	150.6	117.3	37.7	9.9	5.6	1.4	27.8
Benton	114.1	82.7	38.1	3.8	1.7	3.3	20.6
Clackamas	155.1	105.4	61.9	7.8	2.8	3.7	27.0
Clatsop	179.9	116.6	78.0	9.7	4.9	4.9	31.4
Columbia	154.0	104.4	60.3	8.6	3.8	3.6	24.8
Coos	185.7	151.2	42.3	9.6	5.7	4.9	33.6
Crook	181.0	142.2	54.4	7.3	4.6	3.3	31.9
Curry	197.9	164.8	41.0	12.0	5.1	3.9	43.0
Deschutes	155.8	117.0	51.7	7.1	2.4	3.0	30.9
Douglas	187.0	137.9	62.2	7.7	5.1	4.8	37.5
Gilliam	160.6	120.7	46.8	9.0	3.2	3.2	21.8
Grant	140.7	103.0	45.5	7.2	3.9	2.0	23.4
Harney	151.5	103.5	55.6	11.4	3.8	8.7	29.8
Hood River	116.4	87.5	33.8	5.5	4.8	2.7	17.5
Jackson	175.2	127.9	57.4	10.5	4.8	4.7	38.2
Jefferson	161.9	130.4	46.0	5.3	2.8	3.7	24.4
Josephine	200.2	149.7	62.7	10.4	8.2	4.2	46.4
Klamath	140.1	115.8	31.1	5.6	3.3	1.7	26.0
Lake	156.2	119.0	45.0	8.5	3.7	3.6	41.0
Lane	160.8	114.1	58.3	7.7	4.8	4.1	32.8
Lincoln	199.7	141.8	72.2	12.6	4.7	5.8	44.2
Linn	175.8	123.8	67.5	7.5	5.0	4.6	34.3
Malheur	116.8	103.4	18.3	4.4	3.6	0.9	22.0
Marion	142.0	103.7	47.7	6.2	3.2	3.3	23.8
Morrow	146.4	115.6	44.5	4.8	2.4	2.8	16.9
Multnomah	143.4	99.0	54.8	6.6	2.7	3.0	23.0
Polk	143.5	103.1	49.7	6.1	3.4	3.3	24.3
Sherman	198.3	147.9	57.8	9.6	24.9	5.1	34.6
Tillamook	179.4	125.5	63.1	11.0	7.6	4.8	33.4
Umatilla	133.0	106.2	37.8	4.2	1.8	3.2	18.2
Union	144.3	104.0	52.7	7.5	1.8	3.3	23.6
Wallowa	134.2	104.8	36.5	9.4	2.7	1.4	28.6
Wasco	160.0	118.1	52.1	8.4	7.5	3.3	28.4
Washington	129.2	89.4	49.1	5.6	2.1	3.2	61.3
Wheeler	156.1	115.0	42.5	9.1	2.8	2.8	1.6
Yamhill	155.4	107.7	59.5	8.8	3.5	3.5	24.3

*Does not include methadone used to treat addiction.

Other Drugs

Table 21. AMPHET by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	6,794	24,651	3.6	9.5	34.4
15 - 24	8,370	27,462	3.3	16.5	54.1
25 - 34	7,080	26,603	3.8	13.4	50.4
35 - 44	5,293	20,877	3.9	10.5	41.3
45 - 54	4,180	16,586	4.0	7.8	31.0
55 - 64	2,975	11,885	4.0	5.8	23.2
65 - 74	710	2,691	3.8	2.3	8.8
75 - 84	118	392	3.3	0.7	2.3
85+	34	101	3.0	0.4	1.3
TOTAL	35,554	131,248	3.7	9.2	34.0

Amphet Amphet is identified as amphetamine and dextroamphetamine extended release and is commonly used to treat ADHD, fatigue and narcolepsy. Amphet is in a class of medications called central nervous system (CNS) stimulants.

Brand names: Adderall

Table 22. METHYLPHENIDATE by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	14,182	55,889	3.9	19.8	78.0
15 - 24	6,208	20,267	3.3	12.2	39.9
25 - 34	2,669	8,671	3.2	5.1	16.4
35 - 44	2,688	9,601	3.6	5.3	19.0
45 - 54	2,744	10,168	3.7	5.1	19.0
55 - 64	2,550	9,777	3.8	5.0	19.1
65 - 74	908	3,131	3.4	3.0	10.3
75 - 84	270	804	3.0	1.6	4.7
85+	104	307	3.0	1.3	3.9
TOTAL	32,323	118,615	3.7	8.4	30.7

Methylphenidate Methylphenidate is used as part of a treatment program to control symptoms of ADHD in adults and children. It is also used to treat narcolepsy. Methylphenidate is in a class of medications called central nervous system (CNS) stimulants. It works by changing the amounts of certain natural substances in the brain.

Brand names: Concerta, Metadate, Methylin, Ritalin

Table 23. ACETAMINOPHEN WITH CODEINE by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	2,272	2,507	1.1	3.2	3.5
15 - 24	3,562	4,102	1.2	7.0	8.1
25 - 34	3,685	4,959	1.3	7.0	9.4
35 - 44	3,276	5,109	1.6	6.5	10.1
45 - 54	3,980	7,609	1.9	7.4	14.2
55 - 64	4,818	10,443	2.2	9.4	20.4
65 - 74	4,135	8,931	2.2	13.6	29.3
75 - 84	2,671	5,640	2.1	15.8	33.3
85+	1,473	2,971	2.0	18.9	38.1
TOTAL	29,872	52,271	1.7	7.7	13.6

Acetaminophen with Codeine Acetaminophen with Codeine is used to relieve mild to moderate pain and to reduce fever. It may also be used to relieve the pain of osteoarthritis (arthritis caused by the breakdown of the lining of the joints). Acetaminophen is a less potent pain reliever that increases the effects of codeine. Acetaminophen with Codeine is often combined with opiates to increase their pain relieving properties. Acetaminophen has liver toxicity at higher doses. Acetaminophen with Codeine is in a class of medications called opiate narcotic analgesics (pain relievers) and antipyretics (fever reducers). It works by changing the way the body senses pain and by cooling the body.

Brand Names: Tylenol w/Codeine

Table 24. CARISOPRODOL by Age Group, Statewide, OR, 4/1/12 to 9/30/12

Age (in years)	Prescription Recipient Count in 6 months	Number of prescriptions dispensed in 6 months	Number of prescriptions dispensed per prescription recipient in 6 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	<10	7	<10	<10	0.0
15 - 24	315	616	2.0	0.6	1.2
25 - 34	1,115	3,052	2.7	2.1	5.8
35 - 44	1,945	6,090	3.1	3.8	12.0
45 - 54	3,191	11,039	3.5	6.0	20.6
55 - 64	3,121	10,549	3.4	6.1	20.6
65 - 74	1,314	3,673	2.8	4.3	12.0
75 - 84	376	930	2.5	2.2	5.5
85+	57	127	2.2	0.7	1.6
TOTAL	11,441	36,083	3.2	3.0	9.4

Carisoprodol Carisoprodol, a muscle relaxant, is used with rest, physical therapy, and other measures to relax muscles and relieve pain and discomfort caused by strains, sprains, and other muscle injuries. It works by blocking pain sensations between the nerves and the brain and is a central nervous system (CNS) depressant.

Brand names: Soma

Prescribers Using the System

Figure 3. Number of providers with PDMP system accounts by discipline, Statewide, OR, as of 9/30/12, n = 4,686

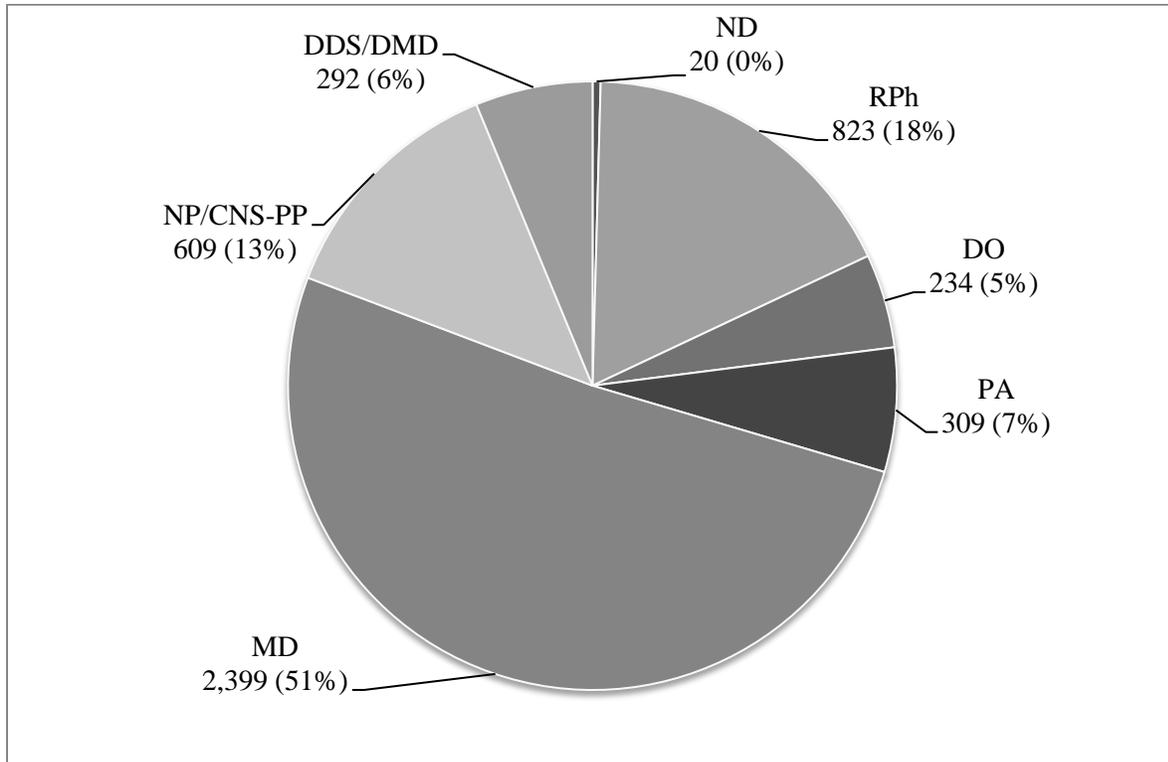
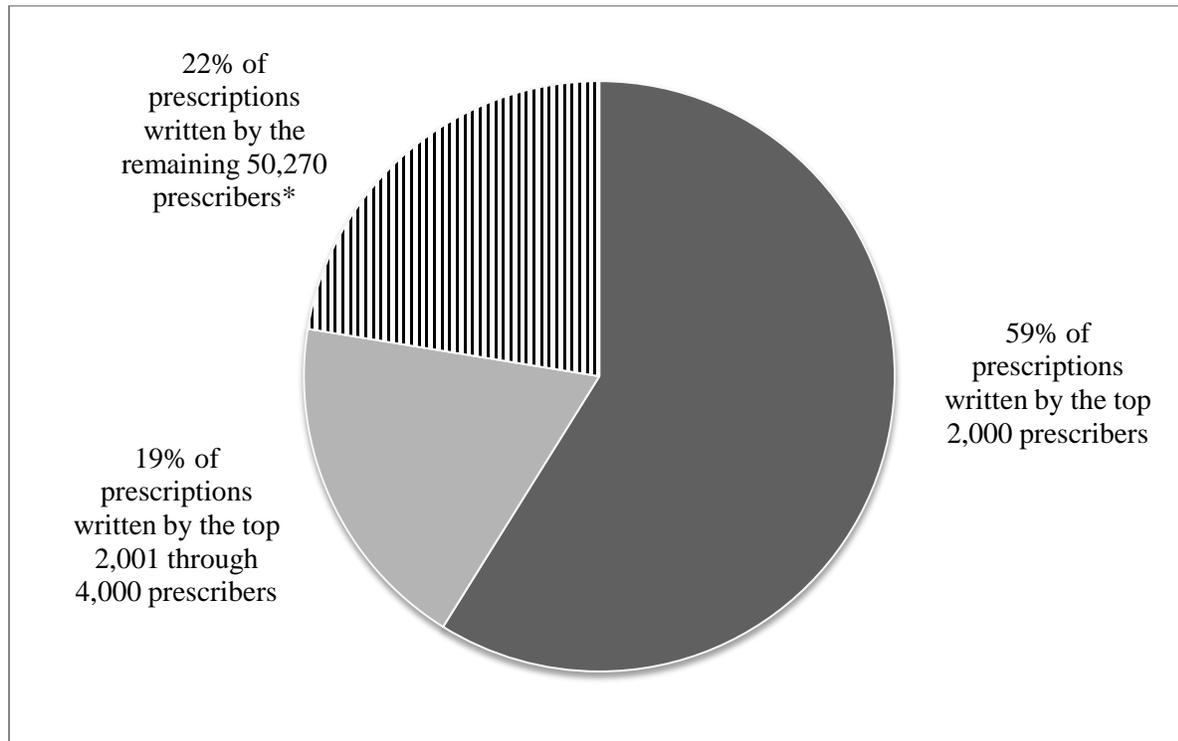


Table 25. Estimated number of prescribing providers registered for a PDMP account by county and statewide, OR, 4/1/12 to 9/30/12, n = 4,549

County	Number of prescribing providers with accounts	Number of prescribing providers (prescribed at least 1 Rx)	Percent of Registered Users Among Prescribing Providers
Statewide	4,549	14,134	32%
Baker	18	42	43%
Benton	132	371	36%
Clackamas	376	1,429	26%
Clatsop	57	128	45%
Columbia	34	54	63%
Coos	76	187	41%
Crook	16	28	57%
Curry	28	60	47%
Deschutes	211	749	28%
Douglas	120	274	44%
Gilliam	3	6	50%
Grant	12	18	67%
Harney	13	13	100%
Hood River	52	102	51%
Jackson	296	770	38%
Jefferson	29	39	74%
Josephine	95	260	37%
Klamath	69	189	37%
Lake	9	14	64%
Lane	321	1,268	25%
Lincoln	86	119	72%
Linn	79	232	34%
Malheur	27	88	31%
Marion	322	1,053	31%
Morrow	5	12	42%
Multnomah	1,258	4,947	25%
Polk	57	62	92%
Sherman	0	4	0%
Tillamook	33	67	49%
Umatilla	55	155	35%
Union	28	89	31%
Wallowa	9	21	43%
Wasco	16	114	14%
Washington	507	901	56%
Wheeler	0	2	0%
Yamhill	99	267	37%

Figure 4. Percentage of total CS II-IV prescriptions written by prescriber cohort, OR, 9/1/11 to 9/30/12, n = 54,270



*Number of remaining prescribers includes out-of-state prescribers who are not licensed in Oregon.

Table 26. Number and percent of prescriptions written by prescriber cohort and number and percent of prescriber cohort with PDMP accounts, OR, 9/1/11 to 9/30/12

	Number of prescriptions	% of total prescriptions per cohort	Number of prescribers with PDMP accounts per cohort	% of prescribers with PDMP accounts per cohort
Top 2,000 prescribers	4,068,852	59%	1,279	64%
Top 2,001 through 4,000 prescribers	1,292,414	19%	938	47%
Remaining prescribers, n = 50,270*	1,550,430	22%	2,469	5%
TOTAL	6,929,696		4,686	

*Number of remaining prescribers includes out-of-state prescribers who are not licensed in Oregon and therefore not eligible to obtain a PDMP system account. There are approximately 15,000 Oregon-licensed providers who prescribe controlled substances.

Table 27. Mean, median, and quartile of providers using the system by discipline, Statewide, OR, 4/1/12 to 9/30/12

Discipline	Total number of providers	Total number of queries	Mean	Median	Top cohort, 25% of total system queries		Second cohort, 25% of total system queries		Third cohort, 25% of total system queries		Fourth cohort, 25% of total system queries	
					# of providers	# of queries range	# of providers	# of queries range	# of providers	# of queries range	# of providers	# of queries range
RPh	561	9,975	13	5	16	95 - 270	41	37 - 85	101	16 - 35	403	1 - 15
NP/CNS-PP	553	24,312	32	10	20	190 - 527	42	101 - 189	92	40 - 100	399	1 - 39
MD, PA, and DO	2,178	109,404	35	8	18	418 - 3,057	137	133 - 415	328	51 - 132	1,695	1 - 50
ND	18	602	17	7	2	85 - 89	2	82	4	17 - 52	10	1 - 16
DDS/DMD	144	2,275	12	4	5	74 - 162	11	38 - 70	23	14 - 37	105	1 - 13
Total	3,454	146,568	21.8	6.8	61	74 - 3,057	233	37 - 415	548	14 - 132	2612	1 - 50

Patients with High Use Profiles

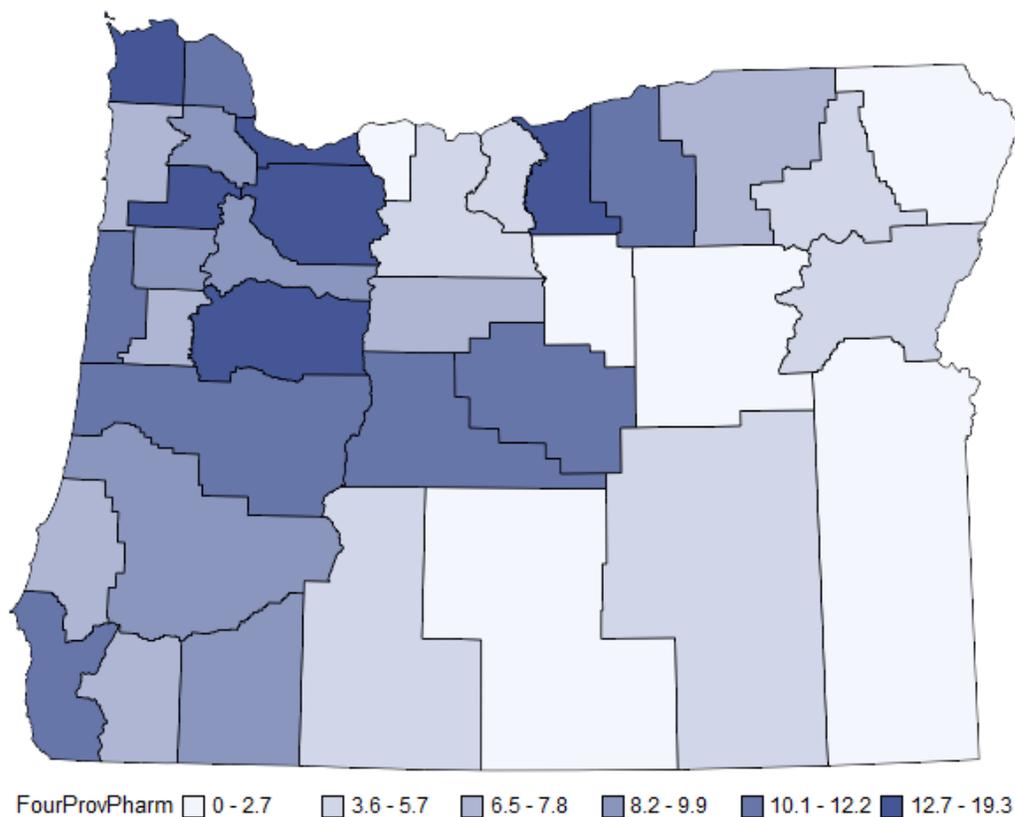
Patients being dispensed controlled substances written by four or more prescribers and filled at four or more pharmacies have increased potential for misuse of medications and increased risk for adverse outcomes, e.g. overdose.^{11, 12}

Table 28. Number of patients filling prescriptions from four or more prescribers and four or more pharmacies, Statewide, OR, 4/1/12 to 9/30/12

	Count of patients
4 or more providers and pharmacies	4,640*
Total number of patients who received at least one prescription	863,881

**The count is most likely an undercount because statute prohibits the collection of a unique identifier and the PDMP system parameters are set to minimize false positives.*

Figure 5. Number of residents/10,000 using four or more prescribers and four or more pharmacies by county, OR, 4/1/12 to 9/30/12



¹¹ Peirce, G., M. Smith, et al. (2012). "Doctor and pharmacy shopping for controlled substances." *Med Care*.

¹² Katz, N., L. Panas, et al. (2010). "Usefulness of prescription monitoring programs for surveillance---analysis of Schedule II opioid prescription data in Massachusetts, 1996--2006." *Pharmacoepidemiol Drug Safety* 19: 115-123.

Developing Concepts and Data Analysis

The statewide aggregated data report – and 36 county level reports – can be used to inform, develop, and implement population-based prevention approaches to reduce prescription drug overdose, such as public information campaigns and clinical guidance. Developing concepts are new means of analyzing PDMP to advance efforts to address the prescription drug overdose epidemic. These concepts stem from the work of the PDMP data workgroup, feedback and input from stakeholders including local health officials, and national PDMP and overdose data analysis efforts. Questions and input are welcome.

Opioid Prescribing Over Time Data

While there is some question regarding the efficacy of long-term use of opioids to treat chronic noncancer pain¹³, it is helpful to keep in mind the variety of conditions that these medicines are prescribed for when examining the PDMP data – see page 4. The following information is an initial look at opioid prescribing over time (Table 29). Keep in mind that PDMP data do not include diagnostic information nor does the current data contain days supplied which can be used to better distinguish opioid prescribing for various conditions.

¹³ Martell BA, O'Connor PG, Kerns RD, Becker WC, Morales KH, Kosten TR, et al. Systematic review: opioid treatment for chronic back pain: prevalence, efficacy, and association with addiction. *Annals of Internal Medicine*. 2007; 146(2):116–27.

Table 29. Number and percent of patients dispensed opioids for three or more consecutive months, county and statewide, OR, 4/1/12 to 9/30/12

	Number of unique recipients	Number of unique recipients dispensed opioids for three or more consecutive months	Percent of unique recipients dispensed opioids for three or more consecutive months
Statewide	586,662	214,845	37%
Baker	2,442	955	39%
Benton	9,812	2,795	28%
Clackamas	58,716	19,475	33%
Clatsop	6,681	2,457	37%
Columbia	7,643	3,231	42%
Coos	11,690	4,499	38%
Crook	3,774	1,317	35%
Curry	4,420	1,844	42%
Deschutes	24,760	7,767	31%
Douglas	20,160	7,691	38%
Gilliam	302	118	39%
Grant	1,048	417	40%
Harney	1,117	455	41%
Hood River	2,634	859	33%
Jackson	35,732	13,929	39%
Jefferson	3,537	1,244	35%
Josephine	16,581	6,903	42%
Klamath	9,325	3,301	35%
Lake	1,232	542	44%
Lane	56,791	20,897	37%
Lincoln	9,219	3,760	41%
Linn	20,632	7,747	38%
Malheur	3,672	1,334	36%
Marion	45,183	14,433	32%
Morrow	1,650	541	33%
Multnomah	106,364	33,747	32%
Polk	10,898	3,435	32%
Sherman	350	156	45%
Tillamook	4,532	1,847	41%
Umatilla	10,184	3,268	32%
Union	3,749	1,472	39%
Wallowa	939	361	38%
Wasco	4,049	1,552	38%
Washington	69,278	19,481	28%
Wheeler	224	70	31%
Yamhill	15,516	5,152	33%

CCO Data

The following information represents an initial look at controlled substance prescribing within Coordinated Care Organizations (CCOs) areas (Table 30). CCO service varies by zip code – see page 43. Among Oregon’s 470 zip codes, 190 zip codes are serviced by more than one CCO. For this reason, these numbers provide an overestimation of the total amount of prescription recipient counts. By providing data from these overlapping zip codes, we are able to report for all CCOs, that we would otherwise be limited to reporting on only a few CCOS where non-duplicated zip codes are served. While this provides us more breadth of data, caution must be used when interpreting the data due to this overestimation.

Table 30. Controlled substance dispensation by CCO, OR, 4/1/12 to 9/30/12

Name of CCO	Number of patients dispensed an Opioid	Number of patients dispensed an Opioid/Benzo Combo	Number of patients visiting 4 or more pharmacies and 4 or more health care providers
All Care	58,499	15,909	271
Cascade Health Alliance	9,246	2,027	24
Columbia Pacific	23,147	4,934	132
Eastern Oregon	28,535	5,769	107
Family Care	257,557	52,802	2,660
Health Share of Oregon	255,360	52,309	2,644
Intercommunity	48,319	11,337	318
Jackson Care Connect	50,088	13,730	239
Pacific Source: Central Oregon	40,750	9,511	204
Pacific Source: Columbia Gorge	7,839	1,473	18
Primary Health of Josephine	21,409	6,026	70
Trillium	60,604	15,602	429
Umpqua	19,147	4,716	96
Western Oregon Advanced	16,796	3,814	67
Willamette Valley	63,233	12,812	414
Yamhill County Care Organization	35,445	7,044	354
Total for all CCOs	876,547	219,815	8,047
<i>The rows shaded in gray indicate CCO areas where all zip codes represented are served by that single CCO.</i>			

Discussion

Prescription drug overdose, dependence, and addiction are serious public health problems. The PDMP provides health care providers with a tool to identify and address these problems. The PDMP mission is to use data to improve health care by offering health care providers and pharmacists information about prescription controlled substances, reduce prescription overdose, decrease “doctor shopping” – a patient obtaining controlled substances from multiple health care providers without the prescribers’ knowledge of the other prescriptions – and decrease misuse of prescription controlled substances. A balanced approach to this work includes an understanding of the need to preserve access to medicines for the management of pain while decreasing the misuse of prescription controlled substances. The PDMP data workgroup welcomes input and questions.

Recommendations

- Assure that 80 percent of the top 4,000 prescribers have system accounts.
- Produce and disseminate a tool for system users on how to use a PDMP report with a patient.
- Disseminate information about the PDMP system and helpful resources through licensing boards, health care provider associations, and health systems.
- Encourage health systems to adopt and implement guidelines for use of the PDMP.
- Analyze data by CCO region to inform policy and practice.
- Use geocoding and mapping in future analysis.
- Analyze data in future reports to reflect acute versus chronic condition prescribing.
- Analyze data using descriptive statistical modeling to better understand where prescriptions for controlled substances are correlated with hospitalizations and deaths.

Glossary of Terms

Acetaminophen with Codeine Acetaminophen with Codeine is used to relieve mild to moderate pain and to reduce fever. It may also be used to relieve the pain of osteoarthritis (arthritis caused by the breakdown of the lining of the joints). Acetaminophen is a less potent pain reliever that increases the effects of codeine. Acetaminophen with Codeine is often combined with opiates to increase their pain relieving properties. Acetaminophen has liver toxicity at higher doses. Acetaminophen with Codeine is in a class of medications called opiate narcotic analgesics (pain relievers) and antipyretics (fever reducers). It works by changing the way the body senses pain and by cooling the body.

Brand Names: Tylenol w/Codeine

Alprazolam Alprazolam is used to treat anxiety disorders and panic disorder (sudden, unexpected attacks of extreme fear and worry about these attacks). Alprazolam is in a class of medications called benzodiazepines. It works by decreasing abnormal excitement in the brain.

Brand names: Xanax

Amphet Amphet is identified as amphetamine and dextroamphetamine extended release and is commonly used to treat ADHD, fatigue and narcolepsy. Amphet is in a class of medications called central nervous system (CNS) stimulants.

Brand names: Adderall

Buprenorphine Buprenorphine is a semi-synthetic, partial opioid agonist that is used to treat opioid addiction in higher dosages and to control moderate acute pain in non-opioid-tolerant individuals in lower dosages. Buprenorphine is a narcotic analgesic. It works by working in the brain and nervous system to decrease pain. A combination with other CNS depressants, such as alcohol, benzodiazepines, barbiturates, z-drugs, GHB, and any other substance that depresses the central nervous system, should be avoided.

Brand names: Suboxone, Subutex, Buprenex

Carisoprodol Carisoprodol, a muscle relaxant, is used with rest, physical therapy, and other measures to relax muscles and relieve pain and discomfort caused by strains, sprains, and other muscle injuries. It works by blocking pain sensations between the nerves and the brain and is a central nervous system (CNS) depressant.

Brand names: Soma

Clonazepam Clonazepam is used alone or in combination with other medications to control certain types of seizures. It is also used to relieve panic attacks. Clonazepam is in a class of medications called benzodiazepines. It works by decreasing abnormal electrical activity in the brain.

Brand names: Klonopin, Klonopin Wafer

Diazepam Diazepam is used to relieve anxiety, muscle spasms, and seizures and to control agitation caused by alcohol withdrawal. Diazepam is also used to treat irritable bowel syndrome and panic attacks. Diazepam is in a class of medications called benzodiazepines.

Brand names: Valium

Fentanyl Fentanyl is a powerful synthetic opiate analgesic similar to but more potent than morphine. It is typically used to treat patients with severe pain, or to manage pain after surgery. It is also sometimes used to treat people with chronic pain who are physically tolerant to opiates. Fentanyl is in a class of medications called opiate narcotic analgesics. It works by changing the way the brain and nervous system respond to pain.

Brand names: Abstral, Actiq, Duragesic, Fentora, Onsolis, Sublimaze

Hydrocodone Hydrocodone is available only in combination with other ingredients, and different combination products are prescribed for different uses. Some hydrocodone products are used to relieve moderate to severe pain. Other hydrocodone products are used to relieve cough. Hydrocodone is in a class of medications called opiate narcotic analgesics and in a class of medications called antitussives. Hydrocodone relieves pain by changing the way the brain and nervous system respond to pain. Hydrocodone relieves cough by decreasing activity in the part of the brain that causes coughing.

Brand names: Vicodin, Lorcet, Lortab, Norco

Hydromorphone Hydromorphone is used to relieve moderate to severe pain. It also may be used to decrease coughing. Hydromorphone is in a class of medications called opiate narcotic analgesics and in a class of medications called antitussives.

Brand names: Dilaudid, Exalgo, Hydrostat, Palladone

Lorazepam Lorazepam is used to relieve anxiety. It is also used to treat irritable bowel syndrome, epilepsy, insomnia, and nausea and vomiting from cancer treatment and to control agitation caused by alcohol withdrawal. Lorazepam is in a class of medications called benzodiazepines. It works by slowing activity in the brain to allow for relaxation.

Brand names: Ativan

Methadone Methadone is used to relieve moderate to severe pain that has not been relieved by non-narcotic pain relievers. It also is used to prevent withdrawal symptoms in patients who were addicted to opiate drugs and are enrolled in treatment programs in order to stop taking or continue not taking the drugs. Methadone is in a class of medications called opiate narcotic analgesics. Methadone works to treat pain by changing the way the brain and nervous system respond to pain. It also works as a substitute for opiate drugs of abuse by producing similar effects and preventing withdrawal symptoms in people who have stopped using these drugs. Methadone has a very long half-life (stays in the body a long time).

Brand names: Dolophine, Methadose

Methylphenidate Methylphenidate is used as part of a treatment program to control symptoms of ADHD in adults and children. It is also used to treat narcolepsy. Methylphenidate is in a class of medications called central nervous system (CNS) stimulants. It works by changing the amounts of certain natural substances in the brain.

Brand names: Concerta, Metadate, Methylin, Ritalin

Morphine Morphine is used to relieve moderate to severe pain. Morphine long-acting tablets and capsules are only used by patients who are expected to need medication to relieve moderate to severe pain around-the-clock for longer than a few days. Morphine is in a class of medications called opiate narcotic analgesics. It works by changing the way the body senses pain.

Brand names: Avinza, Kadian, MS Contin, Oramorph, Roxanol

Oxycodone Oxycodone is used to relieve moderate to severe pain. Oxycodone is in a class of medications called opiate narcotic analgesics. It works by changing the way the brain and nervous system respond to pain.

Brand names: Dazidox, Endocet, ETH-Oxydose, Endocodone, Oxecta, Oxy IR, Oxycontin, Oxyfast, Percocet, Percolone, Roxicodone

Oxymorphone Oxymorphone is an opioid pain medication. Oxymorphone is in a class of medications called opiate narcotic analgesics. It is used to treat moderate to severe pain. The extended-release form of this medication is for around-the-clock treatment of pain.

Brand names: Opana

Temazepam Temazepam is used on a short-term basis to treat insomnia. Temazepam is in a class of medications called benzodiazepines. It works by slowing activity in the brain to allow sleep.

Brand names: Restoril

Zolpidem Zolpidem is used to treat insomnia. Zolpidem belongs to a class of medications called sedative-hypnotics. It works by slowing activity in the brain to allow sleep.

Brand names: Ambien, Zolpimist