



Prescription Drug Dispensing in Oregon

January 1, 2013 - December 31, 2013

Schedules II-IV Medications

Dispensed in Oregon

Statewide

Oregon
Health
Authority

PUBLIC HEALTH DIVISION
Prescription Drug Monitoring Program

Prescription Controlled Substance Dispensing in Oregon: January 1, 2013 – December 31, 2013

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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April 2015

Acknowledgements

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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: acute pain (e.g. that is the result of injury, surgery, dental treatment); chronic pain; and pain related to end-of-life care. PDMP data do not include clinical diagnostic information, but the following statistics may be helpful 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 aged 18 years 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 January 1, 2013, and December 31, 2013:

More than 6.7 million prescriptions for Schedules II-IV controlled substances were dispensed by retail pharmacies to Oregonians; of these, almost 3.6 million prescriptions (54%) 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 918,000 Oregonians (24%) received at least one prescription opioid; the median number of prescriptions per patient was four opioid prescriptions (Table 2).

More than 1.9 million prescriptions for benzodiazepines were dispensed by retail pharmacies to more than 418,000 people (Table 11).

More than 211,000 Oregonians received prescriptions for both an opioid and a benzodiazepine (Table 18).

Eighty-one percent of the total Schedule II-IV controlled substance prescriptions dispensed were prescribed by 4,000 prescribers (Figure 4). Among those 4,000 prescribers, 59 percent were registered PDMP system users.

Threshold measures that reflect potential drug seeking indicate: 5,943 patients filled prescriptions from at least 4 different prescribers and at 4 different pharmacies (Table 28).

Recommendations

- Form a task force to target the co-prescribing of opioid and benzodiazepine controlled substances to reduce the number of patients within this at-risk population.
- Develop a long-range, cost-benefit report on pain management that compares pharmacological care only, pharmacological care and complementary therapies combined, and complementary therapies only.
- Ensure that at least 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.
- Encourage health systems to adopt and implement evidence-based guidelines for use of the PDMP.
- Analyze data by CCO region to inform policy and practice.

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 patients 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 the annual report to the PDMP Advisory Commission.

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, and cancer care; pain that is a chronic problem; and pain related to 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
- More than 100,000 injuries are treated in emergency departments each year,⁷
- About 5.5 percent of Oregonians (213,000 people) had surgical visits,⁸
- About 18 percent of adults aged 18 years 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.

This statewide aggregated data report 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 can 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. In January 2013, 99 percent of all pharmacies were submitting data. The compliance with data submission remained at 99 percent by the end of December 2013.

Data submitted by pharmacies can contain errors. Each data submission is checked for errors and if the data submission 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 through 2013.

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.

Data

Statewide Population

Table 1. Population and Number of Prescriptions by age, Statewide, OR, 1/01/13 to 12/31/13

Age (in years)	Population*	Total number of prescriptions
1 - 14	716,997	253,635
15 - 24	506,321	397,153
25 - 34	534,322	760,985
35 - 44	514,870	999,392
45 - 54	526,086	1,415,339
55 - 64	516,414	1,557,198
65 - 74	341,712	852,265
75 - 84	181,557	385,442
85+	80,742	166,695
TOTAL	3,919,020	6,788,104
*2013 population estimates, Population Research Center, Portland State University.		

Opiate Narcotic Analgesics

Table 2. Unique Recipient Count for Opioids by Age Group, Statewide, OR, 1/01/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	20,191	26,488	1.3	28.2	36.9
15 - 24	102,573	189,937	1.9	202.6	375.1
25 - 34	142,900	415,148	2.9	267.4	777.0
35 - 44	138,867	532,455	3.8	269.7	1034.2
45 - 54	158,467	786,917	5.0	301.2	1495.8
55 - 64	165,882	864,139	5.2	321.2	1673.3
65 - 74	109,381	485,510	4.4	320.1	1420.8
75 - 84	54,402	227,405	4.2	299.6	1252.5
85+	25,521	99,195	3.9	316.1	1228.5
TOTAL	918,184	3,627,194	4.0	234.3	925.5

Opioids include: Hydrocodone, Oxycodone, Morphine, Methadone, Fentanyl, and Hydromorphone.

Notes on Table Information

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

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

Column 4 includes data for: Number of **prescriptions dispensed per prescription recipient** (original and refills) in twelve 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/1,000 receiving an opioid, by county, OR, 1/1/13 to 12/31/13

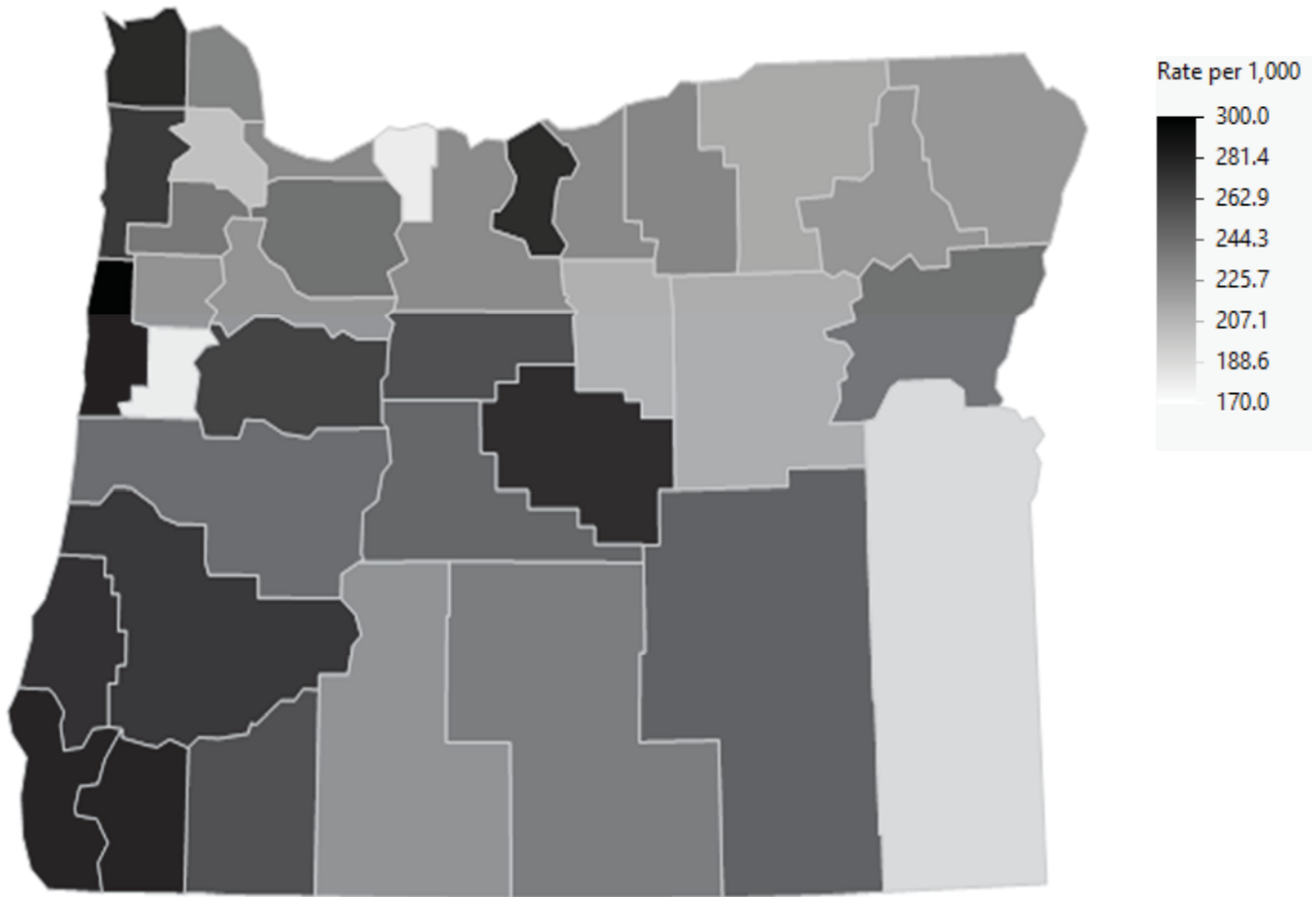


Table 3. HYDROCODONE by Age Group, Statewide, OR, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	16,723	20,874	1.2	23.3	29.1
15 - 24	78,889	124,988	1.6	155.8	246.9
25 - 34	105,642	236,353	2.2	197.7	442.3
35 - 44	102,513	284,751	2.8	199.1	553.1
45 - 54	115,348	394,086	3.4	219.3	749.1
55 - 64	119,769	430,422	3.6	231.9	833.5
65 - 74	80,360	265,569	3.3	235.2	777.2
75 - 84	40,252	132,575	3.3	221.7	730.2
85+	17,039	56,125	3.3	211.0	695.1
TOTAL	676,535	1,945,743	2.9	172.6	496.5

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, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	3,856	4,817	1.2	5.4	6.7
15 - 24	34,537	60,135	1.7	68.2	118.8
25 - 34	56,340	149,076	2.6	105.4	279.0
35 - 44	54,253	181,857	3.4	105.4	353.2
45 - 54	62,479	262,967	4.2	118.8	499.9
55 - 64	63,578	274,066	4.3	123.1	530.7
65 - 74	39,428	141,196	3.6	115.4	413.2
75 - 84	16,787	56,858	3.4	92.5	313.2
85+	6,158	20,867	3.4	76.3	258.4
TOTAL	337,416	1,151,839	3.4	86.1	293.9

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, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	128	223	1.7	0.2	0.3
15 - 24	479	1,322	2.8	0.9	2.6
25 - 34	1,812	9,649	5.3	3.4	18.1
35 - 44	3,909	26,244	6.7	7.6	51.0
45 - 54	7,832	60,859	7.8	14.9	115.7
55 - 64	10,446	78,651	7.5	20.2	152.3
65 - 74	7,118	39,761	5.6	20.8	116.4
75 - 84	4,873	17,863	3.7	26.8	98.4
85+	5,208	10,517	2.0	64.5	130.3
TOTAL	41,805	245,089	5.9	10.7	62.5

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, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	35	134	3.8	0.0	0.2
15 - 24	169	938	5.6	0.3	1.9
25 - 34	1,253	9,385	7.5	2.3	17.6
35 - 44	2,352	19,195	8.2	4.6	37.3
45 - 54	3,900	33,648	8.6	7.4	64.0
55 - 64	4,413	37,957	8.6	8.5	73.5
65 - 74	1,728	13,070	7.6	5.1	38.2
75 - 84	729	4,085	5.6	4.0	22.5
85+	449	1,949	4.3	5.6	24.1
TOTAL	15,028	120,361	8.0	3.8	30.7

**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, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	171	291	1.7	0.2	0.4
15 - 24	126	494	3.9	0.2	1.0
25 - 34	674	3,572	5.3	1.3	6.7
35 - 44	1,331	9,365	7.0	2.6	18.2
45 - 54	2,553	18,234	7.1	4.9	34.7
55 - 64	3,442	23,698	6.9	6.7	45.9
65 - 74	2,763	15,643	5.7	8.1	45.8
75 - 84	2,288	11,868	5.2	12.6	65.4
85+	1,759	8,506	4.8	21.8	105.3
TOTAL	15,107	91,671	6.1	3.9	23.4

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, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	71	149	2.1	0.1	0.2
15 - 24	1,098	2,061	1.9	2.2	4.1
25 - 34	2,712	7,113	2.6	5.1	13.3
35 - 44	3,793	11,043	2.9	7.4	21.4
45 - 54	5,141	17,123	3.3	9.8	32.5
55 - 64	5,548	19,344	3.5	10.7	37.5
65 - 74	3,496	10,271	2.9	10.2	30.1
75 - 84	1,422	4,156	2.9	7.8	22.9
85+	486	1,231	2.5	6.0	15.2
TOTAL	23,767	72,491	3.1	6.1	18.5

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, 1/1/2013 to 12/31/2013

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	<10	<10	<10	<10	0.0
15 - 24	22	129	5.9	0.0	0.3
25 - 34	170	966	5.7	0.3	1.8
35 - 44	285	1,758	6.2	0.6	3.4
45 - 54	429	3,095	7.2	0.8	5.9
55 - 64	470	3,178	6.8	0.9	6.2
65 - 74	176	1,114	6.3	0.5	3.3
75 - 84	83	364	4.4	0.5	2.0
85+	22	102	4.6	0.3	1.3
TOTAL	1,659	10,709	6.5	0.4	2.7

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, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	34	79	2.3	0.0	0.1
15 - 24	1,465	10,269	7.0	2.9	20.3
25 - 34	2,902	28,883	10.0	5.4	54.1
35 - 44	2,006	19,369	9.7	3.9	37.6
45 - 54	1,704	13,540	7.9	3.2	25.7
55 - 64	1,277	10,133	7.9	2.5	19.6
65 - 74	363	2,175	6.0	1.1	6.4
75 - 84	110	441	4.0	0.6	2.4
85+	64	230	3.6	0.8	2.8
TOTAL	9,925	85,119	8.6	2.5	21.7

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, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	6,388	12,901	2.0	8.9	18.0
15 - 24	22,067	62,069	2.8	43.6	122.6
25 - 34	49,562	186,292	3.8	92.8	348.7
35 - 44	64,876	292,712	4.5	126.0	568.5
45 - 54	81,391	424,450	5.2	154.7	806.8
55 - 64	91,117	480,653	5.3	176.4	930.8
65 - 74	59,033	272,787	4.6	172.8	798.3
75 - 84	28,935	124,949	4.3	159.4	688.2
85+	14,723	54,884	3.7	182.3	679.7
TOTAL	418,092	1,911,697	4.6	106.7	487.8
<p><i>Benzodiazepines include: Alprazolam, Clonazepam, Diazepam, Lorazepam, Temazepam, and Zolpidem.</i></p>					

Table 12. ZOLPIDEM by Age Group, Statewide, OR, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	131	331	2.5	0.2	0.5
15 - 24	3,272	9,223	2.8	6.5	18.2
25 - 34	10,432	38,332	3.7	19.5	71.7
35 - 44	17,285	75,525	4.4	33.6	146.7
45 - 54	24,290	115,160	4.7	46.2	218.9
55 - 64	29,310	142,541	4.9	56.8	276.0
65 - 74	18,378	82,309	4.5	53.8	240.9
75 - 84	7,449	33,538	4.5	41.0	184.7
85+	2,526	11,414	4.5	31.3	141.4
TOTAL	113,073	508,373	4.5	28.9	129.7

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

Table 13. LORAZEPAM by Age Group, Statewide, OR, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	1,488	2,615	1.8	2.1	3.6
15 - 24	8,477	16,521	1.9	16.7	32.6
25 - 34	16,464	41,794	2.5	30.8	78.2
35 - 44	19,707	60,341	3.1	38.3	117.2
45 - 54	24,133	87,092	3.6	45.9	165.5
55 - 64	26,852	99,922	3.7	52.0	193.5
65 - 74	19,129	65,762	3.4	56.0	192.4
75 - 84	11,460	36,444	3.2	63.1	200.7
85+	8,224	21,527	2.6	101.9	266.6
TOTAL	135,934	432,018	3.2	34.7	110.2

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 14. ALPRAZOLAM by Age Group, Statewide, OR, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	1,557	2,490	1.6	2.2	3.5
15 - 24	5,298	13,851	2.6	10.5	27.4
25 - 34	13,562	43,506	3.2	25.4	81.4
35 - 44	17,217	63,851	3.7	33.4	124.0
45 - 54	19,867	85,191	4.3	37.8	161.9
55 - 64	21,100	91,505	4.3	40.9	177.2
65 - 74	12,627	48,722	3.9	37.0	142.6
75 - 84	5,730	22,623	3.9	31.6	124.6
85+	2,354	9,168	3.9	29.2	113.5
TOTAL	99,312	380,907	3.8	25.3	97.2

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 15. CLONAZEPAM by Age Group, Statewide, OR, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	732	2,832	3.9	1.0	3.9
15 - 24	4,152	15,448	3.7	8.2	30.5
25 - 34	9,172	41,707	4.5	17.2	78.1
35 - 44	11,129	58,790	5.3	21.6	114.2
45 - 54	13,569	81,502	6.0	25.8	154.9
55 - 64	13,492	80,900	6.0	26.1	156.7
65 - 74	7,151	38,383	5.4	20.9	112.3
75 - 84	3,021	14,413	4.8	16.6	79.4
85+	1,042	4,673	4.5	12.9	57.9
TOTAL	63,460	338,648	5.3	16.2	86.4

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 16. DIAZEPAM by Age Group, Statewide, OR, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	2,832	4,578	1.6	3.9	6.4
15 - 24	3,703	6,376	1.7	7.3	12.6
25 - 34	8,500	18,406	2.2	15.9	34.4
35 - 44	11,582	28,564	2.5	22.5	55.5
45 - 54	14,102	43,353	3.1	26.8	82.4
55 - 64	14,740	47,008	3.2	28.5	91.0
65 - 74	9,130	24,168	2.6	26.7	70.7
75 - 84	3,676	9,454	2.6	20.2	52.1
85+	1,251	3,284	2.6	15.5	40.7
TOTAL	69,516	185,191	2.7	17.7	47.3

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 17. TEMAZEPAM by Age Group, Statewide, OR, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	18	56	3.1	0.0	0.1
15 - 24	269	651	2.4	0.5	1.3
25 - 34	795	2,545	3.2	1.5	4.8
35 - 44	1,465	5,641	3.9	2.8	11.0
45 - 54	2,664	12,152	4.6	5.1	23.1
55 - 64	3,851	18,777	4.9	7.5	36.4
65 - 74	2,964	13,443	4.5	8.7	39.3
75 - 84	1,932	8,477	4.4	10.6	46.7
85+	1,027	4,818	4.7	12.7	59.7
TOTAL	14,985	66,560	4.4	3.8	17.0

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

Prescription Drug Combinations

Table 18. OPIOID and BENZODIAZEPINE Combination by Age Group, Statewide, OR, 1/1/13 to 12/31/13

Age (in years)	Prescription Recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving combination, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	818	1,646	2.0	1.1	2.3
15 - 24	9,232	30,691	3.3	18.2	60.6
25 - 34	23,975	123,609	5.2	44.9	231.3
35 - 44	32,449	196,825	6.1	63.0	382.3
45 - 54	43,012	307,808	7.2	81.8	585.1
55 - 64	47,812	335,049	7.0	92.6	648.8
65 - 74	30,937	177,448	5.7	90.5	519.3
75 - 84	15,122	75,172	5.0	83.3	414.0
85+	8,222	31,479	3.8	101.8	389.9
TOTALS	211,579	1,279,727	6.0	54.0	326.5

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.

Figure 2. Number of residents/1,000 receiving an opioid and benzodiazepine, by county, OR, 1/1/13 to 12/31/13

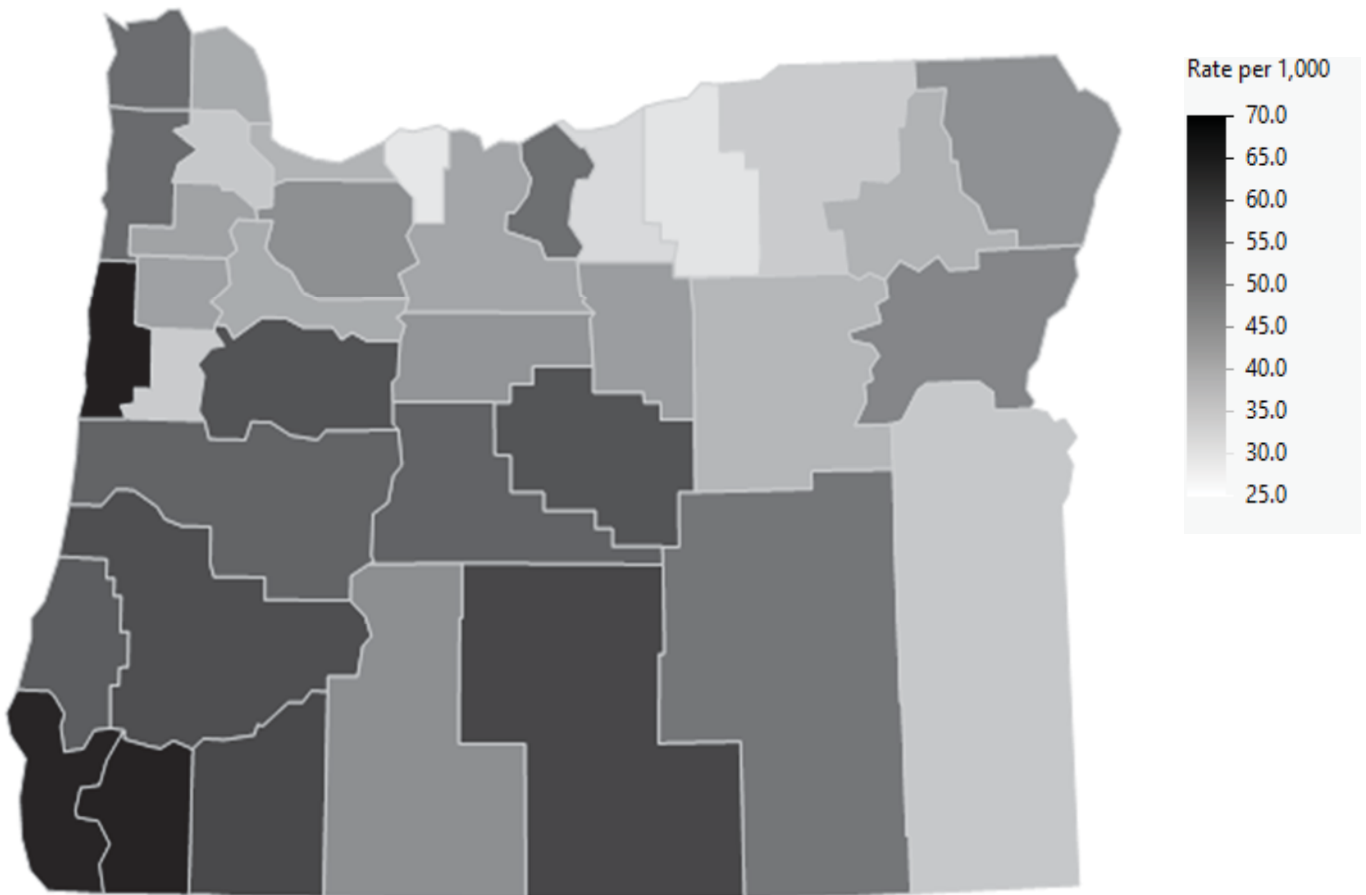


Table 19. OPIOID and ZOLPIDEM/ZALEPLON Combination by Age Group, Statewide, OR, 1/1/13 to 12/31/13

Age (in years)	Prescription Recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving combination, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	32	85	2.7	0.0	0.1
15 - 24	1,373	4,252	3.1	2.7	8.4
25 - 34	5,102	21,301	4.2	9.5	39.9
35 - 44	8,422	41,810	5.0	16.4	81.2
45 - 54	12,261	65,657	5.4	23.3	124.8
55 - 64	14,862	80,507	5.4	28.8	155.9
65 - 74	9,533	47,131	4.9	27.9	137.9
75 - 84	3,870	18,594	4.8	21.3	102.4
85+	1,199	5,661	4.7	14.8	70.1
TOTALS	56,654	284,998	5.0	14.5	72.7
<p><i>Opioids include: Hydrocodone, Oxycodone, and Morphine. Benzodiazepines include: Zolpidem and Zaleplon.</i></p>					

Table 20. Number of people receiving opioid prescriptions per 1,000 residents, by prescription type, county and statewide, OR, 1/1/13 to 12/31/13

	All Opioid Rate	Hydro-codone Rate	Oxy-codone Rate	Morphine Rate	Methadone Rate*	Hydro-morphone Rate	Opioid & Benzo Rate
Statewide	234.3	172.6	86.1	10.7	3.8	6.1	54.0
Baker	242.5	195.8	66.3	15.9	5.9	3.4	46.9
Benton	180.4	133.9	62.1	5.8	1.8	5.1	34.4
Clackamas	242.3	170.5	100.0	11.2	3.3	6.7	45.2
Clatsop	278.8	189.5	127.2	13.5	5.4	7.2	51.4
Columbia	232.7	161.7	95.3	13.1	3.8	7.7	40.0
Coos	280.8	233.4	72.4	14.2	6.3	7.7	54.5
Crook	284.2	227.4	92.4	14.3	4.5	5.9	56.1
Curry	292.4	245.6	66.4	19.2	6.0	7.7	66.8
Deschutes	249.9	193.7	84.2	12.3	2.5	5.3	53.4
Douglas	277.0	210.6	94.9	11.4	5.3	7.5	57.2
Gilliam	230.3	173.3	82.3	14.9	2.1	3.1	31.9
Grant	212.4	157.9	74.4	15.3	2.6	4.2	38.1
Harney	252.5	187.5	86.2	24.8	3.0	18.2	49.9
Hood River	179.6	135.1	57.0	8.2	4.7	4.0	29.5
Jackson	262.0	197.7	87.9	15.2	5.4	7.4	58.3
Jefferson	262.3	213.9	80.5	9.4	2.9	6.5	44.3
Josephine	293.6	223.2	96.6	16.8	8.6	6.9	68.1
Klamath	226.8	192.1	51.5	10.3	3.3	2.4	45.3
Lake	238.5	185.8	73.3	14.5	5.5	4.4	58.7
Lane	246.7	181.1	92.8	10.7	5.3	6.3	53.3
Lincoln	299.5	216.4	113.4	18.4	5.7	9.9	69.8
Linn	270.0	195.7	108.5	12.3	5.3	8.0	56.2
Malheur	189.5	170.5	30.5	7.3	4.5	1.4	34.9
Marion	224.6	167.3	80.5	9.5	3.7	6.4	40.0
Morrow	231.3	184.5	71.4	6.2	2.1	5.9	30.0
Multnomah	230.4	157.5	87.3	9.3	3.3	5.0	38.6
Polk	225.0	167.0	80.4	9.1	4.1	6.6	42.0
Sherman	277.0	199.4	101.1	15.7	23.0	9.6	51.1
Tillamook	269.7	198.1	94.6	16.6	7.8	9.1	51.9
Umatilla	213.9	173.0	64.5	7.1	2.2	7.0	34.4
Union	223.4	165.5	80.8	10.5	2.7	5.4	38.8
Wallowa	222.4	174.4	67.3	14.5	4.3	2.0	45.0
Wasco	229.3	174.5	76.1	12.0	7.2	5.0	41.0
Washington	201.6	143.4	78.9	8.0	2.2	5.4	34.9
Wheeler	210.5	167.8	58.0	11.9	3.5	2.1	42.7
Yamhill	238.6	173.0	92.0	12.6	3.6	6.5	41.6

*Does not include methadone used to treat addiction.

Other Drugs

Table 21. AMPHET by Age Group, Statewide, OR, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	9,936	56,723	5.7	13.9	79.1
15 - 24	11,842	60,539	5.1	23.4	119.6
25 - 34	10,596	61,157	5.8	19.8	114.5
35 - 44	7,585	47,872	6.3	14.7	93.0
45 - 54	5,563	35,973	6.5	10.6	68.4
55 - 64	3,845	26,186	6.8	7.4	50.7
65 - 74	963	6,115	6.3	2.8	17.9
75 - 84	152	851	5.6	0.8	4.7
85+	41	194	4.7	0.5	2.4
TOTAL	50,523	295,610	5.9	12.9	75.4

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, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	19,337	126,672	6.6	27.0	176.7
15 - 24	8,107	41,444	5.1	16.0	81.9
25 - 34	3,793	17,944	4.7	7.1	33.6
35 - 44	3,602	19,764	5.5	7.0	38.4
45 - 54	3,435	19,958	5.8	6.5	37.9
55 - 64	3,216	20,198	6.3	6.2	39.1
65 - 74	1,248	6,850	5.5	3.7	20.0
75 - 84	348	1,607	4.6	1.9	8.9
85+	149	640	4.3	1.8	7.9
TOTAL	43,235	255,077	5.9	11.0	65.1

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, 1/1/13 to 12/31/13

Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	3,761	4,270	1.1	5.2	6.0
15 - 24	6,268	7,445	1.2	12.4	14.7
25 - 34	6,809	9,535	1.4	12.7	17.8
35 - 44	5,817	9,775	1.7	11.3	19.0
45 - 54	6,471	14,111	2.2	12.3	26.8
55 - 64	7,533	20,242	2.7	14.6	39.2
65 - 74	6,421	18,341	2.9	18.8	53.7
75 - 84	4,057	10,817	2.7	22.3	59.6
85+	2,174	5,749	2.6	26.9	71.2
TOTAL	49,311	100,285	2.0	12.6	25.6

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, 1/1/13 to 12/31/13

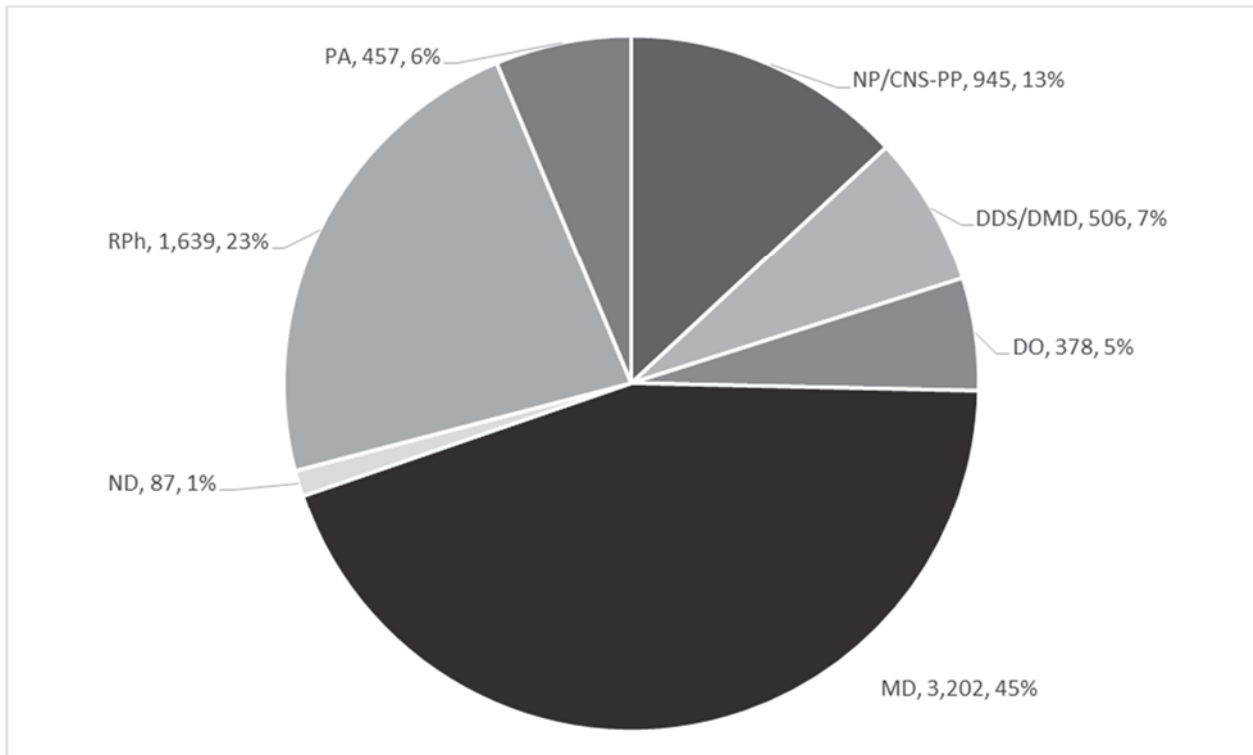
Age (in years)	Prescription recipient Count in 12 months	Number of prescriptions dispensed in 12 months	Number of prescriptions dispensed per prescription recipient in 12 months	Number of people receiving prescription, per 1,000 residents	Number of prescriptions dispensed per 1,000 residents
1 - 14	15	17	1.1	0.0	0.0
15 - 24	436	928	2.1	0.9	1.8
25 - 34	1,515	5147	3.4	2.8	9.6
35 - 44	2,510	11,083	4.4	4.9	21.5
45 - 54	3,677	19,402	5.3	7.0	36.9
55 - 64	3,928	20,271	5.2	7.6	39.3
65 - 74	1,709	7,046	4.1	5.0	20.6
75 - 84	481	1,643	3.4	2.6	9.0
85+	63	178	2.8	0.8	2.2
TOTAL	14,334	65,715	4.6	3.7	16.8

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 and percent of total providers with PDMP system accounts by discipline, Statewide, OR, as of 12/31/13, (n = 7,233)



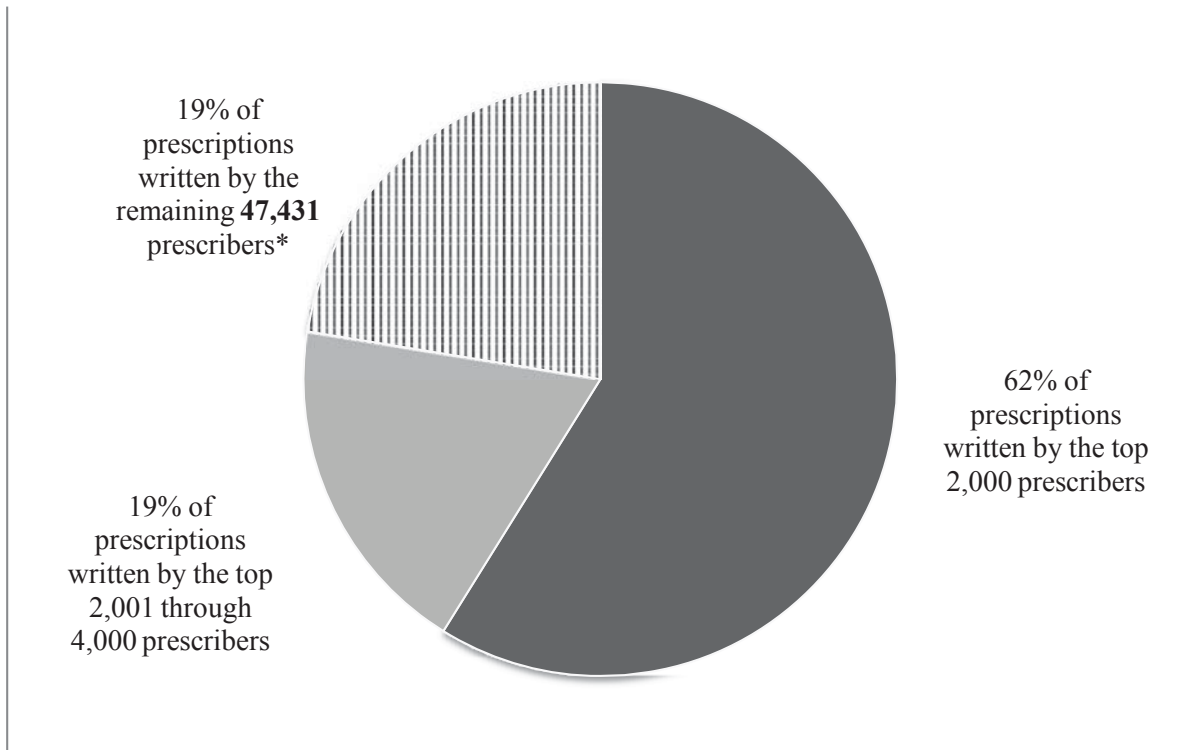
Key to Abbreviations: DDS/DMD: Dentist, DO: Doctor of Osteopathy, DP: Doctor of Podiatry, MD: Medical Doctor, ND: Naturopath, NP/CNS-PP: Nurse, OD: Doctor of Optometry, PA: Physician Assistant, RPh: Pharmacist

Table 25. Estimated number of prescribing providers* registered for a PDMP account, by county and statewide, OR, as of December, 31, 2013, (n = 6,905)

County	Number of prescribing providers* with accounts	Number of prescribing providers* who prescribed at least 1 Rx+ from 1/1/2013 to 12/31/2013	Percent of Registered Users Among Prescribing Providers*
Statewide	6,905	16,851	41%
Baker	24	31	77%
Benton	189	528	36%
Clackamas	629	1,764	36%
Clatsop	79	148	53%
Columbia	44	77	57%
Coos	111	222	50%
Crook	21	37	57%
Curry	36	78	46%
Deschutes	294	779	38%
Douglas	208	369	56%
Gilliam	3	7	43%
Grant	13	19	68%
Harney	14	15	93%
Hood River	61	133	46%
Jackson	429	643	67%
Jefferson	37	41	90%
Josephine	145	287	51%
Klamath	92	230	40%
Lake	10	17	59%
Lane	522	1,486	35%
Lincoln	110	157	70%
Linn	131	220	60%
Malheur	44	110	40%
Marion	478	1,222	39%
Morrow	7	16	44%
Multnomah	1,935	4,978	39%
Polk	82	129	64%
Sherman	0	3	0%
Tillamook	48	77	62%
Umatilla	82	179	46%
Union	41	97	42%
Wallowa	9	21	43%
Wasco	33	130	25%
Washington	797	2,130	25%
Wheeler	0	3	0%
Yamhill	147	312	47%

*Medical providers who prescribed at least one schedule II – IV medication between 1/1/2013 and 12/31/2013
 + Rx=Schedule II – IV medication prescription

Figure 4. Percentage of total Controlled Substance II-IV prescriptions written by prescriber cohort, OR, 1/1/13 to 12/31/13, n = 51,431



**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, 1/1/13 to 12/31/13

	Number of prescriptions	% of total prescriptions per cohort	Number of prescribers with PDMP	% of prescribers with PDMP accounts
2,000 most frequent prescribers+	4,188,584	62%	1,340	67
2,001 - 4,000 most frequent prescribers+	1,309,706	19%	1,180	59
All other Oregon-licensed prescribers+	1,289,814	19%	3,074	23
TOTAL	6,788,104		5,594	

**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 17,000 Oregon-licensed providers who prescribe controlled substances.*

Table 27. Mean, median, and quartile of queries by providers using the PDMP system, by discipline, Statewide, OR, 1/1/13 to 12/31/13

Discipline	Total number of providers	Total number of queries	Mean queries per provider	Median queries per provider	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	1,282	265,079	145	22	49	605 - 3,073	98	380 - 599	146	236 - 379	989	1 - 235
NP/CNS-PP	806	67,677	57	15	16	524- 2,829	54	203 - 512	127	75 - 202	609	1 - 74
MD, PA, and DO	2,999	279,920	62	11	20	1,251- 6,390	127	277- 1,249	410	96-276	2,442	1 - 95
ND	75	2,651	27	33	3	204- 312	4	114-159	11	37-106	57	1 - 34
DDS/DMD	308	6,243	16	20	8	102- 745	20	49-100	63	13-42	217	1 - 12
Total	5,470	621,570	61	20	96	537 - 2,670	303	205 - 524	757	91 - 201	4,314	1 - 90

Key to Abbreviations: DDS/DMD: Dentist, DO: Doctor of Osteopathy, DP: Doctor of Podiatry, MD: Medical Doctor, ND: Naturopath, NP/CNS-PP: Nurse, OD: Doctor of Optometry, PA: Physician Assistant, RPh: Pharmacist

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}

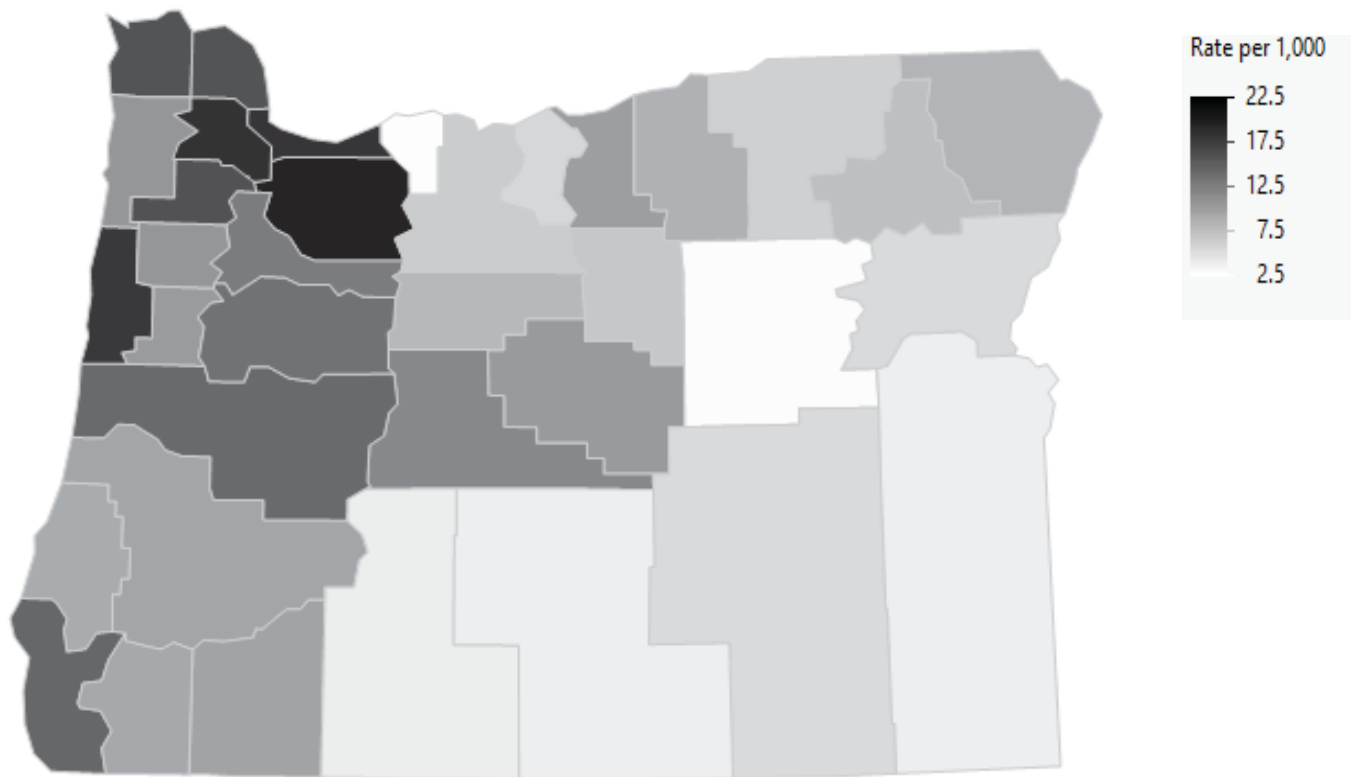
Table 28. Number of patients filling prescriptions from four or more prescribers and four or more pharmacies, Statewide, OR, 6/1/13 to 12/31/13*

	Count of patients
4 or more providers and pharmacies	5,943**
Total number of patients who received at least one prescription	937,607

* Evidence indicates that data for a six month time period is the best indicator.

** The count is most likely an overestimation because this is not measuring consecutive refills. These data should be interpreted with caution.

Figure 5. Number of residents/1,000 using four or more prescribers and four or more pharmacies, by county, OR, 6/1/13 to 12/31/13



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 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 non-cancer pain,¹³ 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 do 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, 1/1/13 to 12/31/13

	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	918,184	149,864	16%
Baker	3,931	849	22%
Benton	15,822	1,996	13%
Clackamas	93,532	15,014	16%
Clatsop	10,390	2,021	20%
Columbia	11,600	2,209	19%
Coos	17,650	3,470	20%
Crook	5,881	982	17%
Curry	6,521	1,225	19%
Deschutes	40,614	5,645	14%
Douglas	30,150	5,622	19%
Gilliam	448	88	20%
Grant	1,579	294	19%
Harney	1,833	372	20%
Hood River	4,184	553	13%
Jackson	54,063	10,593	20%
Jefferson	5,782	989	17%
Josephine	24,313	5,240	22%
Klamath	15,151	2,572	17%
Lake	1,894	464	25%
Lane	87,842	15,385	18%
Lincoln	13,947	3,066	22%
Linn	32,037	6,169	19%
Malheur	5,959	1,209	20%
Marion	72,520	10,758	15%
Morrow	2,643	436	17%
Multnomah	172,425	25,278	15%
Polk	17,336	2,480	14%
Sherman	493	130	26%
Tillamook	6,843	1,352	20%
Umatilla	16,658	2,691	16%
Union	5,880	1,247	21%
Wallowa	1,567	316	20%
Wasco	5,917	1,218	21%
Washington	111,082	13,706	12%
Wheeler	301	66	22%
Yamhill	24,199	3,709	15%

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 number of prescription recipients. By providing data from these overlapping zip codes, we are able to report for all CCOs; 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, 1/1/13 to 12/31/13

Name of CCO	Number of patients dispensed an opioid residing in zip code covered by CCO	Number of patients dispensed an opioid/benzo combo residing in zip code covered by CCO	Number of patients visiting 4 or more pharmacies and 4 or more health care providers, 6/1-12/31/2013
All Care	88,223	24,805	323
Cascade Health Alliance	14,902	3,552	25
Columbia Pacific	35,354	8,542	197
Eastern Oregon	45,198	10,146	119
Family Care	412,261	94,718	3,492
Health Share of Oregon	408,756	93,874	3,477
Intercommunity	75,931	18,998	414
Jackson Care Connect	75,851	21,456	275
Pacific Source: Central Oregon	65,584	16,890	262
Pacific Source: Columbia Gorge	11,849	2,450	25
Primary Health of Josephine	31,844	9,274	104
Trillium	93,596	25,546	540
Umpqua	29,333	7,413	101
Western Oregon Advanced	25,086	6,311	91
Willamette Valley	101,693	20,598	537
Yamhill County Care Organization	57,343	12,596	409
Statewide Totals**	954,797*	229,655	5,5952
<p><i>The rows shaded in gray indicate CCO areas where all zip codes represented are served by that single CCO.</i></p> <p><i>*Includes all opioids (e.g. Buprenorphine).</i></p> <p><i>**Columns will not total. 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.</i></p>			

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 the incidence of patients 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 includes an understanding of the need to preserve access to medicines for the management of pain and other conditions while decreasing the misuse of prescription controlled substances. The PDMP data workgroup welcomes input and questions.

Recommendations

- Form a task force to target the co-prescribing of opioid and benzodiazepine controlled substances to reduce the number of patients within this at-risk population.
- Develop a long-range, cost-benefit report on pain management that compares pharmacological care only, pharmacological care and complementary therapies combined, and complementary therapies only.
- Ensure 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.
- Encourage health systems to adopt and implement evidence-based guidelines for use of the PDMP.
- Analyze data by CCO region to inform policy and practice.

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