Opiate Trends

Multnomah County, 2004-2014

Multnomah County
Health Department

December 2015

CREATED: 11.24.2015

Table of Contents

Executive Summary

Opiates are an ancient and powerful class of drugs derived from the opium poppy, *Papaver somniferum*. Modern chemists have created countless synthetic versions known as opioids that include illegal heroin, as well as prescription medications such as OxyContin, Vicodin, and Percocet. In this report, we use the term "opiate" to refer to both. While prescription opiates are essential for treating severe pain, they are problematic when used widely for chronic conditions outside of cancer and terminal illness. Although these potent drugs are unrivaled for treatment of severe pain, they also cause euphoria and can lead to physical dependence, addiction and death from overdose.

Opiate overdose and death can occur from the misuse of either heroin or prescription opiates. In addition, these drugs are even more dangerous when used at the same time as other respiratory depressants, such as benzodiazapines or alcohol. Since the vast majority of fatal opiate overdoses are accidents or suicides, the Multnomah County Health Department considers all these deaths to be preventable. This report is intended to help our local community monitor the magnitude of opiate misuse and measure our progress in responding to the threat.

This assessment draws from a variety of sources including the Multnomah County Medical Examiner database, the syringe exchange programs operated by Multnomah County and Outside In, ambulance response reports and addictions treatment data. From these, we learn that:

- *Deaths from opiate overdose occurred more than twice a week in 2014 (109 deaths). While unacceptably high, this figure is a substantial improvement from three deaths per week in 2011 (156 deaths).*
- *The decrease in opiate deaths reflects a decrease in heroin-related deaths, which have dropped by more than 30% since 2011.*
- *Prescription opiate deaths have not decreased. In 2014, half of all fatal overdoses were associated with prescription opiates.*
- *Deaths represent only a fraction of the overdoses occurring. Ambulances responded to opiate overdoses in Multnomah County more than a dozen times per week (632 times in 2014).*
- *The expanded availability of naloxone, a drug that reverses opiate overdose, has had a significant effect on overdose outcomes. More than 1,000 lay people in Multnomah County were trained to reverse overdoses using naloxone in 2014 and they reported more than 450 overdose reversals.*
- *Opiates are the most rapidly growing reason for substance misuse treatment in Multnomah County and in Oregon.*

This analysis indicates that the combined efforts of Outside In and Multnomah County to distribute life-saving naloxone rescue kits to syringe exchange clients has likely resulted in fewer people dying from heroin overdoses. Yet, more action is needed to reduce the devastating personal toll and community-wide cost of opiate misuse. Heroin deaths still occur more than once a week, and the number of prescription opiate deaths shows no consistent sign of declining.

To win the battle against opiate misuse, our efforts must be broad-based and address inappropriate prescribing, access to alternative treatment for pain, and compassionate, effective, evidence-based treatment for those suffering from substance use disorders.

Multnomah County Opiate Overdose Deaths

The Multnomah County Medical Examiner's Office investigates all accidental deaths and those resulting from unlawful use of controlled substances. Overall, for capturing information on opiate-related deaths, Medical Examiner data is a timely source for rapidly collecting this information. Vital records data is compiled more slowly and may produce slightly different totals.

Methods:
Opiate deaths reported here include those that occurred in Multnomah County if the primary or contributing causes of death involved at least one of the following: prescription opiate, heroin, or an unspecified opiate. Cases include all manners of death (i.e. suicide, accidental, homicide, unspecified). This report includes all deaths that occurred in Multnomah County from 2009-2014. Among the 750 deaths, 503 individuals were residents of Multnomah County (67%), 82 were residents of other counties (11%), and county was unknown for 165 individuals (22%). Rates are based on population estimates from the Oregon Population Report published by Portland State University's Population Research Center and Medical Examiner death records.

Demographics are reported as frequencies. Trends over time are analyzed in two different ways. First, we used logistic regression with a Poisson distribution for count data to compare changes across the six-year period. This analysis was repeated with each year set as the reference to look at comparisons between individual years. Second, to compare 2014 to all of the five previous years, we used a one-sample median test. This test allowed for calculation of the four-year median and comparison to the 2014 total without requiring normal distribution of the data. All analyses were conducted in SAS 9.3 using a significance level of .05.

The Medical Examiner investigates deaths related to both heroin and prescription opiates. In some investigations the specific opiate responsible is not identified; these are counted as "unspecified". Rx is the abbreviation for prescription opiates.

Findings

Heroin Deaths
Over the six-year period, a larger number of deaths included heroin as a cause than prescription opiates. A smaller subset of deaths involved both heroin and prescription opiates. The total number of deaths involving any opiate has fluctuated, but has dropped for three consecutive years since 2011. Statistically, in 2014 there were significantly fewer opiate-related deaths compared to 2011 and to the median number of deaths from the previous five years. This suggests this decrease is significant and not likely to be explained by chance alone.

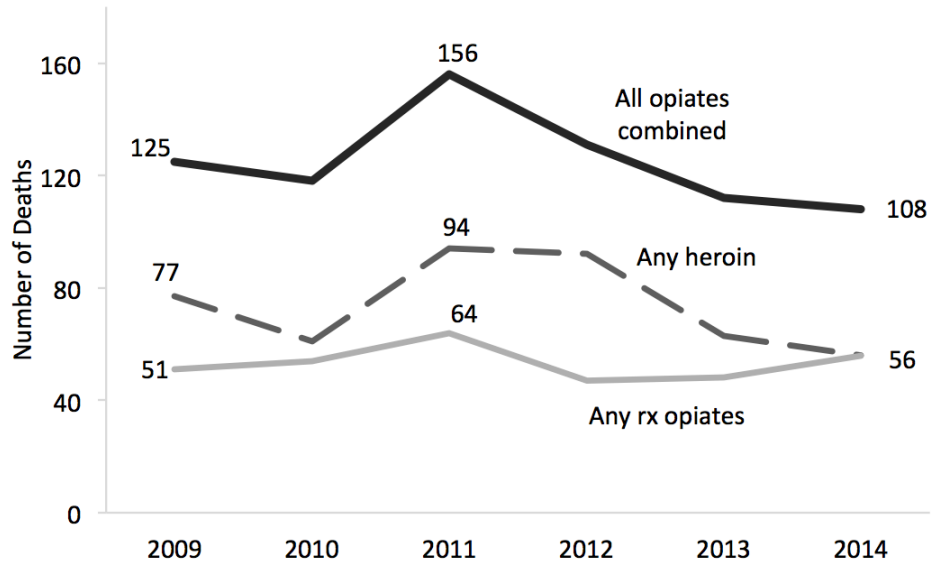
Prescription Opiate Deaths
Prescription-opiate related deaths have fluctuated slightly over the past six years but without any clear trend. In 2014, the number of deaths associated with prescription opiates equaled those of heroin deaths.

Table 1. Opiate Deaths by Drug Types, 2009-2014

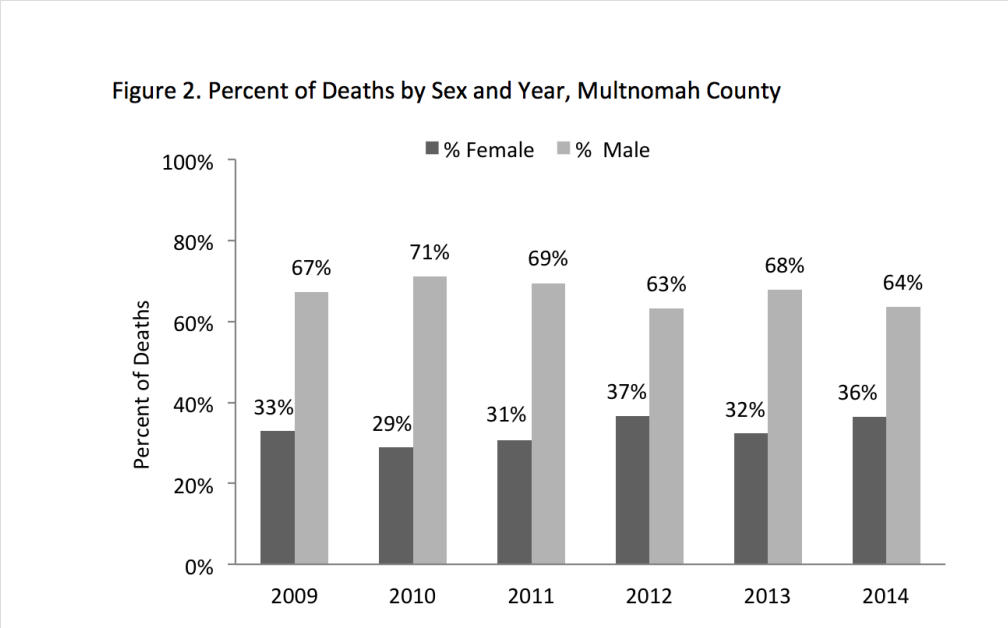
	Any Heroin	Any Rx opiates	Unspecified Opiate	Total*
2009	77	51	<3	125
2010	61	54	4	118
2011	94	64	4	156
2012	92	47	<3	131
2013	63	48	4	112
2014	56	56	3	108
Total	443	320	15+	750

*Some deaths involve both heroin and rx opiates, and are only counted once in the "Total" column

Figure 1. Opiate-Related Deaths by Drug Type and Year, Multnomah County



Sex, Race, Age



Sex: Two-thirds of opiate-related deaths occurred among men between 2009 and 2014.

Race: From 2009 to 2014, there was minimal fluctuation in the proportion of opiate-related deaths accounted for by different racial and ethnic groups in Multnomah County. In all years, white residents accounted for over 88% of deaths.

Age: The median age of individuals whose deaths involved prescription opiates was on average higher (range: 43-51 years) than those whose deaths involved heroin (range: 35-44 years).

Heroin-related Deaths by Age

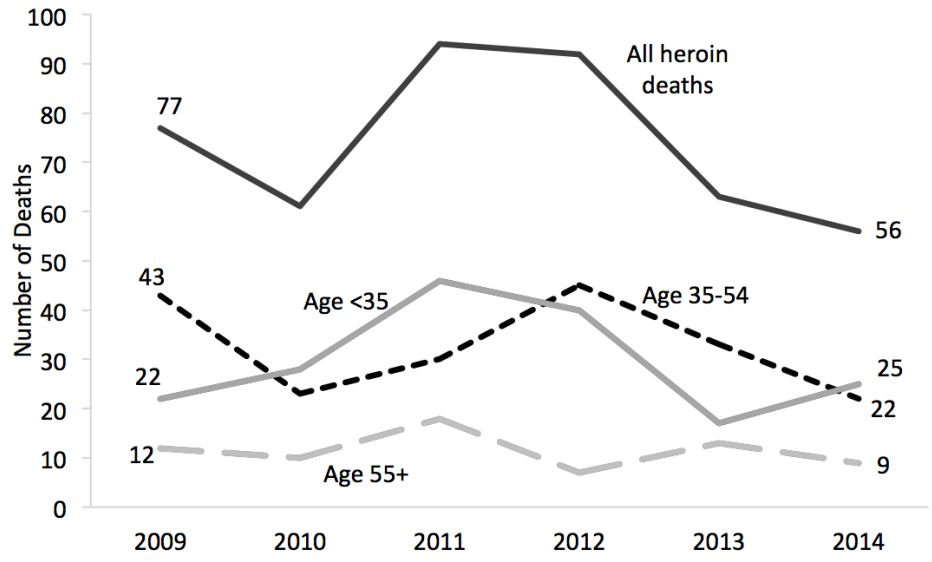
In 2009, more heroin-related deaths occurred among 35-54 year olds compared to those under 35 or over 55 years. Since 2012, heroin-related deaths have been dropping among those 35-54. In 2010 and 2011, heroin-related deaths rose among those under 35 years before dropping again in 2013. There was then a small increase in deaths in this age group in 2014.

Deaths among adults over 55 account for the smallest proportion of heroin-related deaths in the county.

Table 2. Age of heroin deaths, Multnomah County

	<35	35-54	55+	All
2009	22	43	12	77
2010	28	23	10	61
2011	46	30	18	94
2012	40	45	7	92
2013	17	33	13	63
2014	25	22	9	56
Total	178	196	69	443

Figure 3. Deaths Involving Heroin by Age Category, Multnomah County



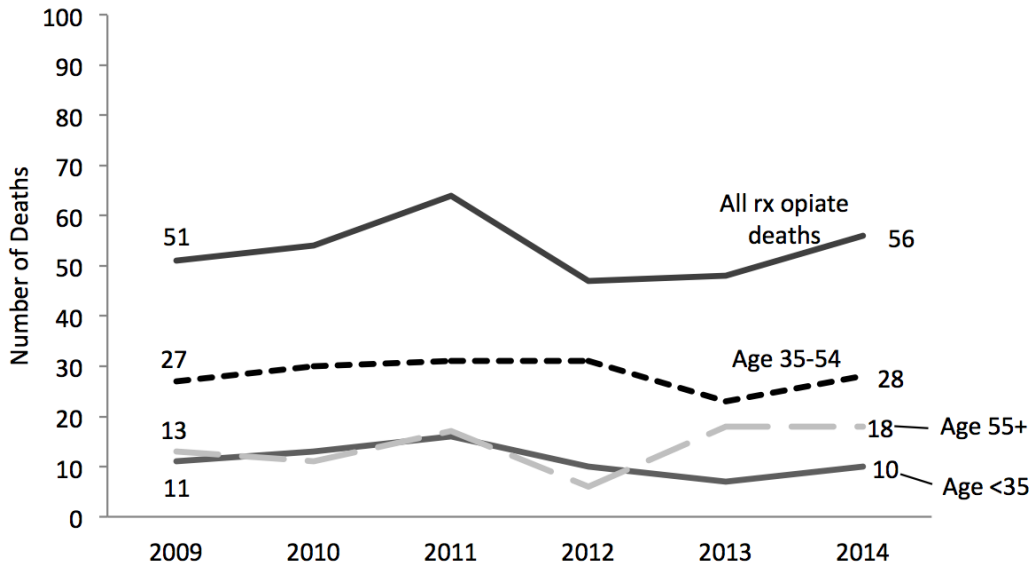
Prescription Opiate-related Deaths by Age

Since 2009, 35-54 year-olds have accounted for the majority of prescription opiate-related deaths in Multnomah County. Deaths among those over 55 years have fluctuated since 2009, peaking in 2013 and holding steady in 2014. Deaths among those under 35 years have also fluctuated over the past six years, peaking in 2011.

Table 3. Age of prescription opiate-deaths, Multnomah County

	<35	35-54	55+	All
2009	11	27	13	51
2010	13	30	11	54
2011	16	31	17	64
2012	10	31	6	47
2013	7	23	18	48
2014	10	28	18	56
Total	67	170	83	320

Figure 4. Age of any Prescription Opiate-Deaths, Multnomah County

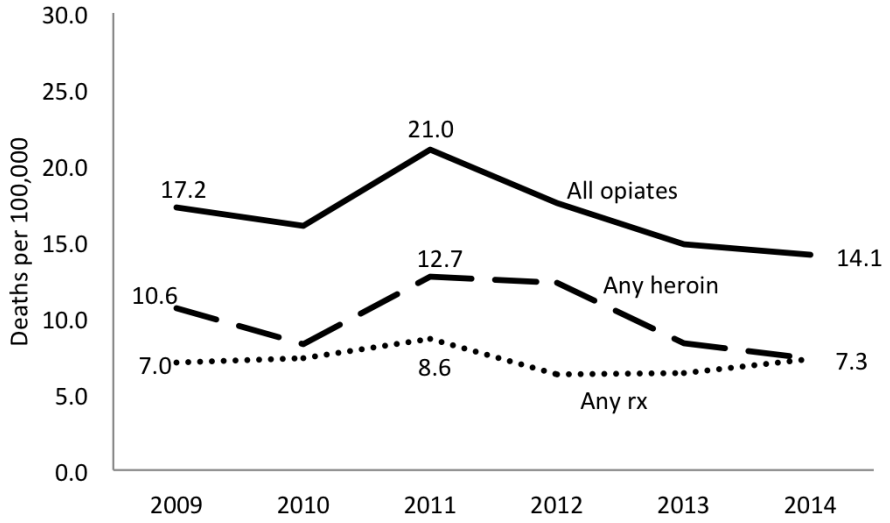


County Death Rates

The figures below display Multnomah County opiate-related death rates per 100,000.

Death rates associated with any opiate types (prescription, heroin, or both) have been consistently higher in Multnomah County compared to the rest of the state. In 2011, opiate death rates peaked for both heroin and prescription opiates.

Figure 5. Drug-Related Death Rates* per 100,000 Population – Any Rx Opiates, Any Heroin, or All Opiates Combined, Multnomah County



*In 2014, the rate for both heroin and prescription opiate deaths is 7.3.

Heroin-related death rates were estimated using any death in which heroin was involved, including those involving both heroin and prescription opiates. The heroin-related death rate steadily dropped from 2011 (12.7) to 2014 (7.3) in Multnomah County.

Prescription opiate death rates were estimated using any death in which prescription opiates were involved, including those involving both prescription opiates and heroin. Prescription opiate death rates remained comparable during this time period, though there has been a slight increase in Multnomah County since 2012, reaching 7.3 deaths per 100,000 in 2014. 2014 was the first year that prescription opiate-related death rates equaled or exceeded heroin-related death rates.

Limitations: While the Medical Examiner (ME) should be involved in all drug-related deaths, there may be cases where the Medical Examiner is not properly informed, and no investigation is completed. Any differences between numbers presented here and reports published by the Medical Examiner's Office are the result of different case definitions related to cause or manner of death. Medical Examiner records include deaths that occurred in Multnomah County among residents and non-residents, so the death counts presented may be slightly inflated.

EMS Response to 911 Overdose Calls

Although the most serious outcome of opiate overdose is death, there are far more instances of non-fatal overdose. An opiate overdose decreases the body's normal drive to breathe. When this happens, the vital organs do not get enough oxygen and coma and brain damage can follow. One way to track non-fatal overdoses is to review ambulance responses to identify those related to overdose.

Methods: Multnomah County has one ambulance provider for 911 emergencies, American Medical Response (AMR). We used a series of queries to filter data collected during AMR responses in Multnomah County in 2013 and 2014 to determine the number and location of responses. This method of counting non-fatal overdoses only identifies those instances in which an ambulance arrived on scene.

Findings: American Medical Response (AMR) ambulances responded to non-fatal opiate overdoses nearly 1,200 times in the last two years. The locations of responses are shown in **Table 4**. The most common location of an AMR response to a non-fatal overdose was a residential setting followed by public areas and roadways. There were more responses in 2014 than 2013.

Limitations: This method underestimates the number of overdoses for multiple reasons. First, if a police or fire department responded to a 911 call, and no ambulance arrived on the scene, that overdose does not appear in these data. Second, if the patient was unconscious or unable to give a medical history, then the event would not be coded as an overdose. Finally, 911 is not always called for overdoses.

Table 4. AMR Response Locations for Opiate Overdoses, Multnomah County 2013-2014

	2013 n (%)	2014 n (%)
Home/Residence/Residential Institution	212 (37)	224 (35)
Public Building/Area	130 (23)	124 (20)
Roadway	86 (15)	115 (18)
Business/Commercial	47 (4)	58 (9)
Bar/Restaurant	21 (4)	26 (4)
Assisted Living/Skilled Nursing Facility	18 (3)	21 (3)
Hotel/Motel	24 (4)	18 (3)
Recreational Area/Park	5 (1)	15 (2)
Medical Setting	11 (2)	11 (2)
Other	10 (2)	11 (2)
Correctional Facility	3 (1)	9 (1)
Total	567 (100)	632 (100)

Syringe Exchange and Naloxone Training

Syringe exchange is part of a comprehensive public health approach to prevent the spread of HIV/AIDS, hepatitis C, and other blood-borne pathogens among injection drugs users, their families, and the larger community. In Multnomah County, syringe exchange and disposal programs provide clients with new, sterile syringes in exchange for used ones. Syringe exchange also provides safer sex supplies and referrals to medical care, social services, and treatment. To have the greatest public health impact, syringe exchange programs incorporate harm reduction education, counseling, and motivational interviewing skills to help guide people to improve individual and community health.

The social service agency, Outside In, and the Multnomah County Health Department each operate syringe exchange programs, which differ in location and hours of operation. Outside In serves the majority of its clients through an indoor site in downtown Portland, which operates 25 hours per week. It also serves a smaller number of clients once a week for three hours near the Clackamas-Multnomah County border. The Multnomah County Health Department currently operates two mobile units and one indoor site, all on Portland's east side, for a total of eight hours per week. Between 2012 and 2014, the Health Department operated its sites for 10 hours per week.

Methods: Outside In and the Multnomah County Health Department share data systems, in which clients create an anonymous registration code during their first visit. Both agencies began using this system in July 2011. Clients use the same anonymous code for all subsequent visits, so that both programs can track the number of unique clients served. At the time of initial registration, staff also collect information, including age, race/ethnicity, gender, primary drug injected, housing status, and zip code or area of residence.

The only demographic information updated after the first visit is housing status and zip code (or city/neighborhood, if zip code is unknown). A client's primary drug injected may change over time, but the following data reflect drugs reported by clients at the time of their first visit. If a client reported that they primarily injected heroin combined with cocaine or methamphetamine, or other combinations of heroin and another drug, they were counted among "heroin-using" clients in this section.

Outside In and the Health Department's syringe exchange programs both offer naloxone training and distribution programs. Staff provide basic training on naloxone administration and overdose rescue and prevention before providing clients with a naloxone kit. Clients also complete an enrollment form with demographic information and overdose risk behaviors and history. If a client needs a naloxone refill, they receive a refresher training and complete a refill form with staff. If the client used their last kit to reverse an overdose, staff ask the client a series of questions related to their overdose response. Those data are reflected in **Table 6** below.

Findings: **Table 5** shows the total number of visits and unique clients served from 2012 to 2014. There was a higher number of "new" clients in 2012 compared with the subsequent years. Because clients were considered "new" at the time of their first visit after the new data system launched in 2011, the higher proportion of "new" clients in 2012 may be related to the change in the tracking system. In 2013 and 2014, almost half of all clients served were new to Multnomah County and Outside In sites. About two-thirds of new clients said heroin or prescription opiates were the main drug they injected.

Between 2012 and 2014, there was a 32% increase in syringes distributed, a 25% increase in visits to the sites and a 19% increase in unique clients served. Prior to 2011, we are unable to estimate the unique number served because clients did not register at that time. The total number of syringe exchange visits in 2014 is 44% more than it was in 2009, when there were 35,405 visits. Visits to Outside In sites accounted for 88-90% of total visits and 28-34% of syringes distributed each year, with the remainder at Multnomah County Health Department sites.

Table 5. Syringe Exchange Clients and Drug of Choice, Outside In and MCHD			
	2012	2013	2014
Total syringes distributed	1,946,782	2,116,883	2,565,926
Total visits to syringe exchange*	40,179	47,170	50,260
Total unique clients served	4,836	5,299	5,743
New clients registered	2,814	2,489	2,403
% of clients served who were new	58%	47%	42%
% of new clients with opiates as drug most injected**	69%	66%	62%
% of all clients served with opiates as drug most injected**	70%	69%	67%

*Only includes visits where a client received syringes; between 1-3% of visits each year did not involve syringe exchange and are not included in these totals.
**Includes heroin, prescription opiates, and combinations of heroin with cocaine or methamphetamines.

Naloxone Training and Use

From July 2013 through October 2015, over 2,000 syringe exchange clients learned how to use naloxone. Outside In trained 1,149 clients and the Multnomah County Health Department trained 985. Those trained have reported 1,060 overdose rescues using naloxone during that same time period. **Table 6** summarizes 2014 training and responses and reflects a full year of the Outside In program and slightly more than half a year of data for the MCHD program, which began in May 2014.

In 2014, 40% of Outside In clients who had completed naloxone training reported using it in an overdose rescue compared to 8% of Health Department clients trained. Although clients are encouraged during the training to call 911 when naloxone is used, clients reported doing so in slightly less than a third of overdose rescues. At both sites, the overwhelming majority of naloxone rescues occurred among friends or acquaintances of syringe exchange program clients (87% and 71% respectively, at the Health Department and Outside In).

Table 6. Overdose Rescue Reports, Outside In and MCHD, 2014		
	MCHD	Outside In
Syringe exchange clients trained in naloxone	530	500
Overdose rescues reported by naloxone trainees	63	404
Clients with one rescue	42	202
Clients with multiple rescues	9	74
Rescues where 911 was called	17	131
Rescues of a family member*	3	11
Rescues of a friend or acquaintance*	55	287
Rescues of a stranger*	3	71

*Data missing from some reversal reports.

Addictions Treatment

Methods: The Oregon Health Authority's Addictions and Mental Health Division (AMH) provided the following treatment admissions data from the Client Process Monitoring System (CPMS) and the Measures and Outcomes Tracking System (MOTS). MOTS replaced CPMS in 2012.

Data represent agencies that have contracts with AMH or other state agencies (e.g., Department of Corrections) to deliver treatment services, or subcontracts with AMH contractors. The data include some providers who are required to submit data to AMH even in the absence of a contract, such as methadone clinics.

Multnomah County residents who received treatment anywhere in Oregon are included here. Residents of other counties who received treatment in Multnomah County are not included.

In both the CPMS and MOTS systems, the primary drug of choice is defined as "the substance abuse problem for which the client was admitted to treatment." Clients may be involved with and affected by multiple problem substances; when a primary substance cannot be distinguished, clients are asked to rank their substances of choice.

In figures, "Rx opiates" represents prescription opiates and "All opiates" represents heroin and prescription opiates combined.

Data represent all addictions services across all drugs of choice:

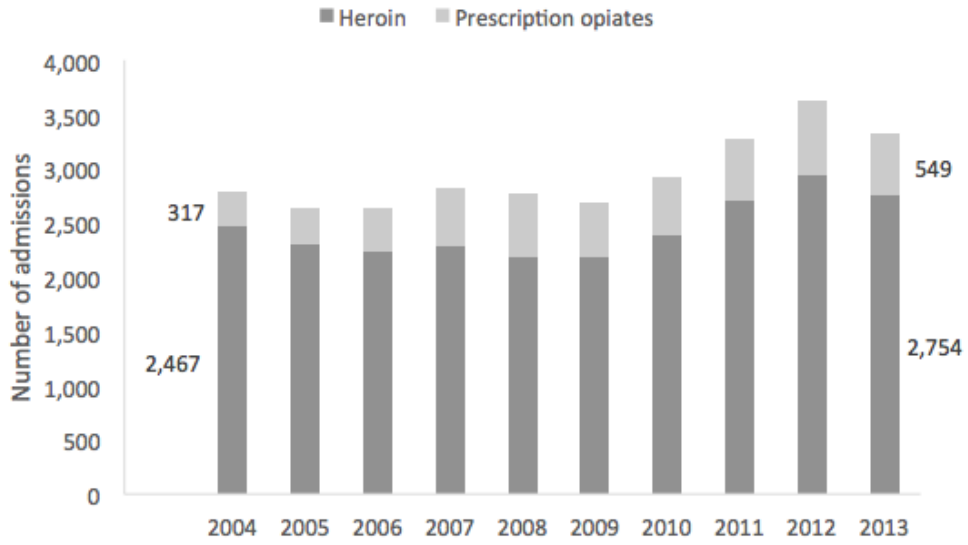
- Methadone maintenance treatment, a medically monitored therapeutic intervention designed to assist opiate dependent individuals improve their overall quality of life and begin the recovery process, that involves case management, counseling and medication management."

- Detoxification, with heroin or other opiates as the primary drug of choice, treatment that provides emergency care or treatment for substance use disorders.

- Outpatient (OP) or residential treatment with heroin as the primary drug of choice, Outpatient treatment includes programs that provide assessment, treatment, and rehabilitation on a regularly scheduled basis or in response to crisis for individuals with alcohol or other drug use disorders.

- Outpatient (OP) or residential treatment with prescription opiates as the primary drug of choice, Residential treatment includes an organized full-day or part-day program of treatment, in a structured environment on a 24-hour basis.

Figure 6. Opiate Treatment Admissions, Multnomah County Residents, 2004-2013



*Includes all addictions services: outpatient, residential, detox, and methadone maintenance.

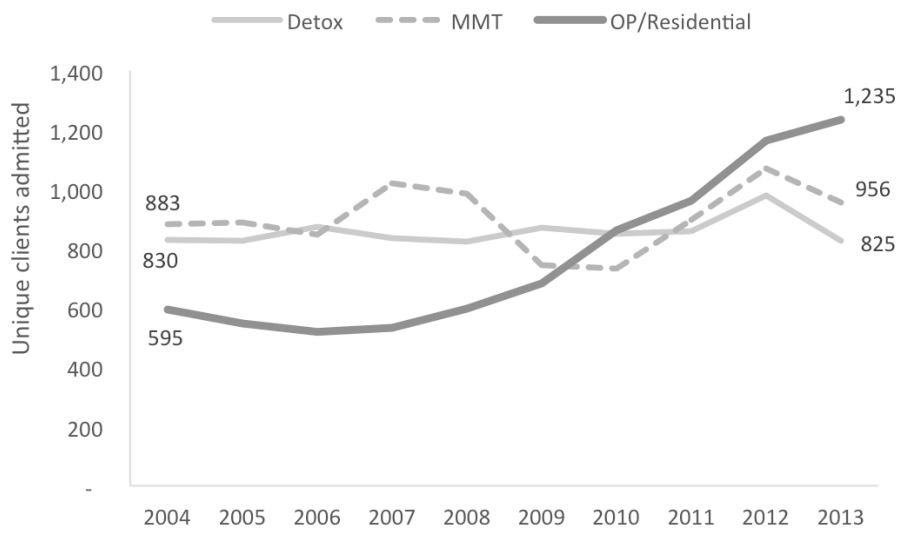
Findings

Trends in Multnomah County

Between 2004 and 2009, opiate treatment admissions across all addictions services described in the Methods section remained stable but then increased between 2010 and 2013. Overall, there were 19% more admissions in 2013 than in 2004. The majority of treatment admissions during the reporting period were for heroin, but there was a greater proportional increase in the number of clients admitted for prescription opiate treatment.

Figure 6 is a count of all treatment admissions, not individuals. For example, if a person entered treatment in January 2013 and again in August 2013, both admissions are included.

Figure 7. Unique Count of Multnomah County Residents Admitted by Treatment Type, with prescription opiates or heroin as the primary drug of choice



*OP = outpatient; Rx = prescription

Figure 7 illustrates the unique number of Multnomah County residents admitted for opiate treatment from 2004 to 2013.

The number of individuals receiving outpatient and residential treatment remained stable until 2008, but then increased by more than 10% each year through 2012. By 2013, the number of individuals receiving treatment had increased by more than 107% compared with 2004. In 2013, nearly 1,000 individuals received treatment for heroin use, a 46% increase compared to 2004. For prescription opiate treatment there was a 73% increase in the same period from 75 individuals to 280.

Trends across methadone maintenance treatment (MMT) and detox admissions were inconsistent and less dramatic. An average of 902 Multnomah County residents were admitted for MMT per year during this period, though totals fluctuated up or down from year to year. Residents admitted to detoxification treatment for heroin or prescription opiates remained stable at an average of 857 per year.

Figure 8. Percent of Overall Treatment Admissions of Multnomah County Residents, by Primary Drug of Choice

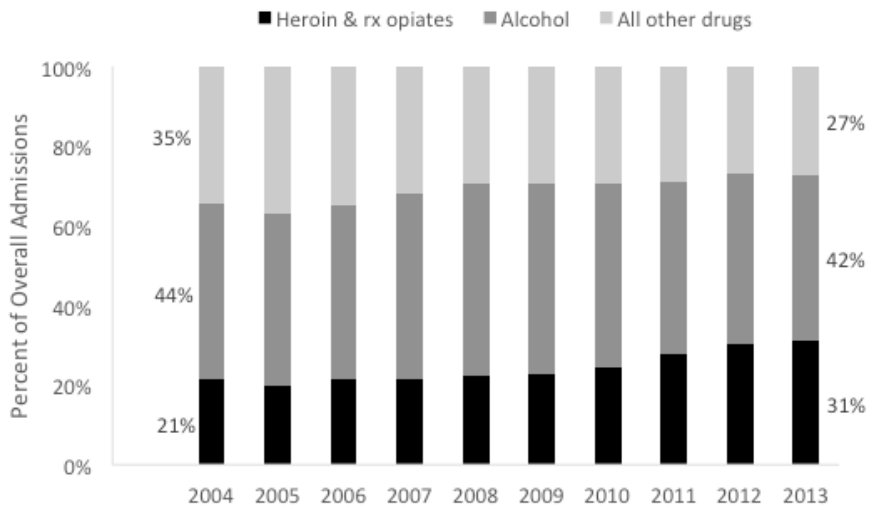


Figure 8 shows the percent of treatment admissions by Multnomah County residents by their primary drug of choice. Alcohol treatment admissions outnumbered other substances from 2004 through 2013, ranging from 42-48% of total admissions each year. However, admissions for heroin and prescription opiates increased from 21% to 31% of total admissions from 2004 to 2013. In 2013, there were 10,621 treatment admissions overall by Multnomah County residents, and 31% were for opiates – specifically, 26% for heroin and 5% for prescription opiates.

Statewide Addiction Treatment Trends

Multnomah County is the most populous county in the state, with roughly 19% of Oregon residents. As the densest county, it has also traditionally been considered the center of heroin use in the state. Statewide data demonstrates that heroin use may be increasing in other parts of the state outside of Multnomah County, as well.

Figure 6 showed Multnomah County admissions increasing by modest amounts from 2004 to 2013.

Table 7 shows increases were far more dramatic in the state overall, with a 58% increase in heroin admissions (compared to a 12% increase in Multnomah County) and a 162% increase in prescription opiate admissions (compared to 73% in Multnomah County). These numbers reflect a trend in which Oregonians living outside of Multnomah County are accessing treatment for opiates in increasingly large numbers.

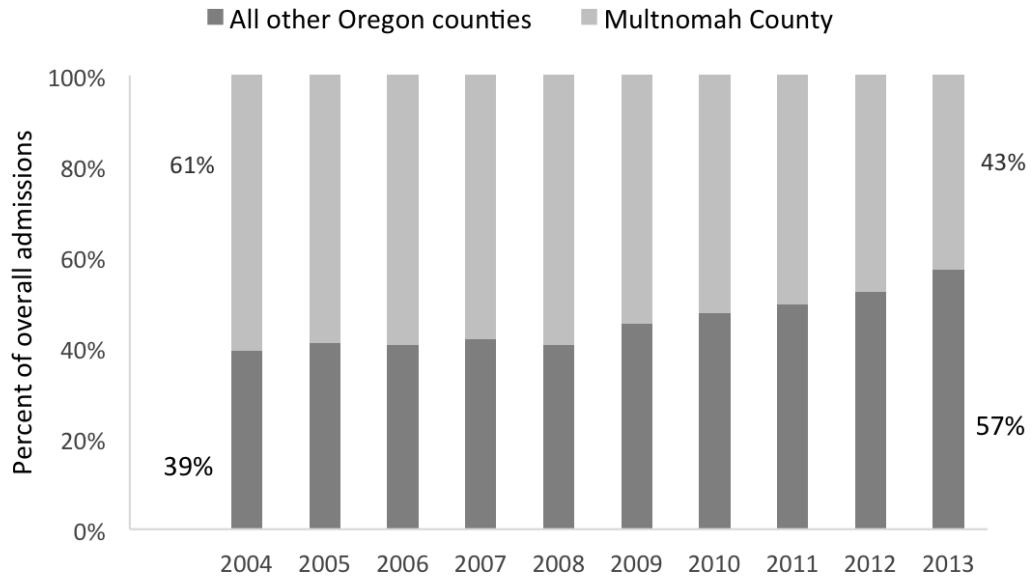
Table 7. Treatment admissions in Oregon by primary drug of choice – 2004 vs. 2013

	2004	2013	Increase
Heroin	4,069	6,432	58%
Prescription opiates	1,090	2,861	162%
Total	5,159	9,293	80%

Figure 9 shows the percent of treatment admissions for heroin that were for residents of either Multnomah County or all other counties in Oregon combined. From 2004 through 2008, Multnomah County residents made up 58-61% of the state's heroin admissions each year but gradually dropped to 43% in 2013. At the same time, Oregonians from other counties surpassed Multnomah County residents for heroin treatment admissions for the first time in 2012, making up 57% of total admissions by 2013.

The same trend occurred for prescription opiates. In 2004, Multnomah County residents represented 29% of the state's admissions for prescription opiates but only 19% in 2013 (not shown). At the same time, residents of other counties increased from 71% to 81% of those admissions. Overall, 54% of the state's opiate admissions (heroin and prescription opiates combined) in 2004 were among Multnomah County residents, compared to only 36% by 2013 (not shown).

Figure 9. Percent of treatment admissions for heroin – Multnomah County residents vs. residents of other Oregon counties



Discussion

Multnomah County, like the rest of the country, continues to suffer from an epidemic of opiate misuse and untimely deaths. Unlike much of the United States however, Multnomah County's heroin overdose death rate has dropped.[1] One possible reason for this decrease is Oregon's 2013 legislation that made naloxone more widely available and the subsequent implementation of two large naloxone training and distribution programs in the County. This success gives us confidence that we can collectively address the many remaining challenges of opiate misuse.

One challenge is the availability of substance use disorder treatment. Much of the data in this report suggests that many Oregonians and Multnomah County residents are misusing heroin and prescription opiates. Although treatment admissions for the use of heroin and prescription opiates have increased both in Multnomah County, and the entire state, the overall number of treatment admissions for all substances combined actually decreased from 2004 through 2013. Across the state, total substance abuse admissions decreased by 16% and in Multnomah County by 18%. This decrease, however, is not likely to be due to a lower need for treatment. For example, in the most recent report from the National Survey on Drug Use and Health, only 14% of Oregonians who reported dependence or abuse of illicit drugs between 2009 and 2013 reported that they had received treatment within the last year.[2] Locally, in a 2013 survey conducted at Multnomah County Health Department syringe exchange sites (n=76), 49% of opiate users said they were interested in accessing medication assisted treatment, like methadone or suboxone. We suspect that there is a large, unmet need for substance abuse treatment and that there are a large number of individuals, both in Multnomah County and Oregon, who need treatment but have not received it.

Although heroin overdose deaths decreased in 2013 and 2014, a fatal overdose every week is too many. We also know that deaths from prescription opiates have not decreased and that misuse of these drugs is linked to initiation of heroin use. A broad, multi-level, multi-sector approach is needed to address the problems described in this report.

New and continuing efforts to address opiate misuse:

- *Developing regional safe opiate prescribing guidelines for providers that will be adopted by all large healthcare organizations throughout Multnomah, Washington and Clackamas counties.*
- *Enhancing the Oregon Health Authority's Prescription Drug Monitoring Program (PDMP) to help prescribers know the source and frequency of their patients' opiate prescriptions.*
- *Creating a partnership between the Tri-County health departments with Lines for Life, PREVENT Coalition - the Substance Abuse Coalition of Clark County, Urban League of Portland, Outside In, and others to develop a public awareness campaign about pain and opiate safety in 2016.*

[1] *Centers for Disease Control and Prevention. Vital Signs: Demographic and Substance Use Trends Among Heroin Users-United States 2002-2003. MMWR 2015, 64(26);719-725*

[2] *http://www.samhsa.gov/data/sites/default/files/State_BHBarometers_2014_2/BHBarometer-OR.pdf*

- *Convening a regional coalition to develop solutions around opiate misuse including improved patient/ provider education, better access to addiction treatment, opportunities to access non-opiate pain treatment, increasing the availability of naloxone, conducting on-going surveillance and making drug disposal safe and easy.*

- *Educating the public on the 2015 passage of a "Good Samaritan' law which encourages those witnessing an overdose to call 911 without fear of prosecution for minor, drug-related offenses.*

- *Continued naloxone distribution and capacity building in Multnomah County and beyond.*

Multnomah County has made progress in reducing heroin deaths, but there is still much work to be done. For additional information on opiates and opiate-related outcomes in Oregon, please visit the Oregon Health Authority's website for Injury and Fatality Data:
https://public.health.oregon.gov/DiseasesConditions/InjuryFatalityData/Pages/index.aspx

The Oregon Health Authority has also launched a new website focused on reducing opiate overdose.
http://healthoregon.org/opioids.

Acknowledgments

Many individuals participated in the development of this report. Paul Lewis, Lindsay Jenkins, Maayan Simckes, Jaime Walters, Amy Zlot and Kim Toevs contributed to the writing of this report. Maayan Simckes prepared and analyzed AMR and Medical Examiner data. Lindsay Jenkins prepared and analyzed treatment and syringe exchange data. Geralyn Brennan from Oregon Health Authority's Addictions and Mental Health Division provided treatment admissions data. Shannon Campbell, Susan Montgomery and Devarshi Bajpai from Multnomah County Health Department's Mental Health and Addictions Services provided information on treatment data systems. Haven Wheelock provided data from Outside In. Cyndi Newton and Maciek Sobieraj advised on using AMR data and provided the AMR data for this report. Dr. Karen Gunson and Erin Patrick with the State and Multnomah County Medical Examiner offices provided expertise and support.

Contact:

Multnomah County Communications Office
Julie Sullivan-Springhetti, (503) 709-9858, Julie.Sullivan-Springhetti@multco.us

Multnomah County
Health Department