Karyna Balytska

Atieh, Ahn

DEN 2315 Pharmacology

Fall 2018

**A. REGIONAL PARAMETERS (50% grade):**

**- List the drugs of abuse (primary, secondary, others). Include generic, brand and street names**

In the western region, the most abused drugs are marijuana, methamphetamine, and oxycodone, and methadone, respectively.

1. Primary Drug – Generic Name: Medicinal Cannabis

Brand Name: Marinol

Street Names: Aunt Mary, Blunt, Dope, Grass, Joint, Weed, Pot, Mary Jane, Skunk, Ganja

2. Secondary Drug – Generic Name: Methamphetamine

Brand Name: Desoxyn

Street Names: Chalk, Uppers, Cookies, Crank, Christina, Tina, Cotton Candy, White Cross

3. Tertiary Drug – Generic Name: Oxycodone

Brand Names: Oxaydo, Dazidox, Oxydose, Roxicodone

Street Names: Oxy, OC, Oxycottons, Kickers, Blue, Killers, Oxy 80s

**- Legal vs. illegal status and drug schedule designation**

In Washington, Wyoming, and Montana the drugs that are most commonly used are marijuana, oxycodone, and methamphetamine. Marijuana is a schedule I controlled substance; oxycodone and methamphetamines are schedule II controlled substances. In Oregon, the drugs that are most commonly consumed by the population are marijuana, oxycodone, and methadone. All three of these drugs are schedule I controlled substances. In Idaho, the drugs that are most commonly consumed are marijuana, methamphetamines, and methadone. Marijuana is a schedule I controlled substance whereas methadone and methamphetamines are schedule II controlled substances. The mentioned drugs above are available legally through a prescription from a licensed professional to treat diseases and conditions such as extreme pain, ADHD, ADD, cancer and glaucoma. These substances can only be administered through prescriptions however they are being illegally abused as the populations consume these drugs at a rate far greater than it is prescribed by practicing physicians.

**- History of accessibility to drugs (points of entry to the region)**

According to recent studies conducted, the majority of drug and opioid overdoses occur through the abuse of prescription opioid analgesics as well as illegal opioids such as heroin and fentanyl. Studies have shown that people who were admitted to the emergency room with injuries were prescribed opioid analgesics to ease the pain. According to Table 1, Washington had the lowest

prescription rate of opioids compared to its surrounding regional states and the national rate. Idaho, Montana, Oregon, and Wyoming however have a higher opioid prescription rate than that of the national rate. Moreover, other studies have indicated that many teens in this regional area obtain illegal drugs through family members or friends who have been medically prescribed these drugs. Unfortunately, many of these individuals have not been warned about the potential of abuse for these drugs, thus carelessly leaving these drugs to be easily accessible to anyone in their household.

**- Socioeconomic history**

Based on previous studies conducted, there is not a direct relationship between opioid overdose and people’s socioeconomic status in Washington, Idaho, Montana, Oregon, and Wyoming. However, some research indicated that drug consumption in these states increased when the rate of unemployment was on a rise. Many of these individuals due to their financial situation cannot afford health insurance and therefore decide to self-medicate when injured or experiencing pain. Thus, people who are financially struggling are more likely to become victims of drug and opioid overdose. Further research however must be conducted to provide an accurate relationship between opioid overdose and people’s socioeconomic status in these states.

**- Demographics of age**

Estimates from the 2010–2011 National Survey on Drug Use and Health 10 indicates that among the population in Washington, about 39% (±4%) ages 18–25 and 11% (±2%) ages 26 and older reported marijuana use within the past year. Approximately 13% (±3%) ages 18–25 and 4% (±1%) ages 26 and older reported nonmedical use of pain relievers within the past year. In Oregon, the rate of drug abuse is roughly the same across all age categories starting at 12 years and older. The age group with the highest rates of marijuana use in Idaho were those between the age of 12-17 years old. The use of amphetamines is reported more frequent among people ages 26-30 years of age. According to the SAMHSA National Survey on Drug Use and Health in 2013-2014, non-medical use of prescription pain relievers in Wyoming was among the top five substances of abuse for people 12-25 years of age. The average age of illicit drug use throughout 2006-2015 in Wyoming was reported to be 40 years of age. In 2010, it was reported that in Montana the largest population of those dependent on marijuana range from 12-17 year of age at 29.5%. The largest population of those abusing amphetamine and methamphetamine ranged from 26-30 year of age at 23.7%.

**- Rise in opioid abuse – compared to national average**

According to the research shown in Table 2, deaths caused by drug overdose have been on the rise across the nation. In 2016, the national average rate of deaths caused by opioid overdose per 100,000 people was 13.3%. Compared to Washington, Idaho, Montana, Oregon, and Wyoming, the national average of deaths caused by opioid overdose is significantly greater. Table 3 depicts the average deaths caused by opioid overdose compared to all drugs available across the nation and in these states. According to Table 3, the average rate of opioid overdose in Washington was 9.4%, Idaho 7.4%, Montana 4.2%, Oregon 7.6%, and Wyoming 8.7%. Based on these percentages, Montana had the lowest rate of deaths and Washington has the highest rate deaths caused by opioid overdose.

**- If applicable, oversight of opioid prescribing**

In 2015, the average US rate of opioid prescriptions that were administered per 100 persons was 70%. During this year, Oregon providers had an average of 78.1% of opioid prescriptions that were given to patients, Idaho providers had an average of 76.4%, and Montana providers had an average of 90%. All of these states had a higher rate of administering opioid prescriptions to patients when compared to the national rate of opioid prescriptions given to individuals. Washington and Wyoming providers however had slightly lower rates than the national average when prescribing opioids to people. Washington providers had an average of 68.2% and Wyoming providers had an average of 65.3%.

**- If applicable, oversight of local pharmacy opioid inventory**

There have been no reports documenting the oversight of local pharmacy opioid inventory in Washington, Oregon, Idaho, Wyoming or Montana.

**- Pharmacology of the drugs of your region (include mechanism(s) of action, potential for abuse, adverse effects)**

Amongst the western region, the drugs that have the potential for abuse include marijuana, heroin, methamphetamines, cocaine, and fentanyl. Opioids can bind to three receptors – Mu, Kappa, and Delta – which are found in the nervous system and are able to slow the transmission of pain impulses between the cells found in the periphery, spine, and brain. Although these opioids can be administered through different routes, they are similar in chemical structure and to natural neurotransmitters. Thus, these drugs work in a similar manner and can lock onto and activate nerve cells in a similar fashion as a natural neurotransmitter would, targeting the brain’s reward system and functioning as a CNS stimulant. For example, heroin can reduce an individual’s pain by binding to one of the receptors mentioned above and decrease the release of neurotransmitters into the synaptic cleft. Cocaine and methamphetamines can bind to these receptors as well and inhibit monoamine reuptake which may increase the concentration of dopamine, serotonin, and norepinephrine in the synaptic cleft. Moreover, apart from heroin and cocaine, the other drugs mentioned above (methamphetamines, marijuana, and fentanyl) are considered safe when taken for a short period of time. However, since these drugs provide pain relief and have a euphoric effect, they have the potential to be misused, leading to addiction or dependency on these drugs. The adverse effects caused by overdosing on these drugs include respiratory depression, coma, or death.

**- Regional overdose history – last 30 years**

The regional overdose history in Washington, Oregon, Idaho, Wyoming and Montana are shown in Graphs 1A, 1B, 1C, 1D, and 1E. Based on these graphs, these regional states had certain years where the death rate caused by opioid overdose was higher than the national rate. However, recent studies demonstrating opioid death related incidents shown on these graphs indicate that as the years progressed, the national rate of deaths caused by opioid overdose was higher when compared to the regional deaths occurring in these states. Studies suggest that since the rate of opioid prescriptions given to individuals within the last few years has increased significantly across the nation, is the leading cause to this rise in opioid related deaths.

**- Regional medical community response**

Washington, Oregon, Idaho, Wyoming and Montana are all located within the western region of the US. The medical community has responded to the rise in drug abuse by creating institutions for rehab, providing counseling, developing drugs to prevent death from overdose, providing patient education on addiction and proper medication disposal to patients and their families. This is to ensure that pharmacies and health care providers adhere to the laws that regulate drugs dispensed and report any misuse to law enforcement agencies. WHO, an agency that deals with international public health including that of the western region of the US, is the only agency that deals with all psychoactive substances. WHO focuses on prevention and reduction of the negative health and social consequences of psychoactive substance use, reduction of the demand for non-medical use of psychoactive substances, and the assessment of psychoactive substances as to advise the United Nations regarding their regulatory control.

**- Regional legislative response, including treatment centers**

In the western region, the local legislatures are aware that there is a serious concern regarding opioid drug abuse and death related incidents. In attempt to regulate its distribution, they have passed laws to limit its accessibility and have funded programs to provide treatment centers for individuals who are suffering from opioid addiction. Additionally, in the western region a prescription drug monitoring program (PDMP) is implemented, which is an electronic database, in order to monitor the amount of controlled substances being prescribed. Table 3 is a list of programs, counseling services, and treatment centers provided by each state to help reduce the amount of people using opioids.

**- Regional media response**

While some of the states in the western region have had a media response to opioid overdose, it has not been publicly addressed with great concern as different opioid drugs become the leading cause of death. In April 2018 however, Molly Harbarger, a reporter from The Oregonian Daily, published an article called “*Jackson County sees Startling Spike in Opioid Overdose Deaths*,” bringing awareness to her people. According to the US Centers for Disease Control and Prevention, Oregon has reduced the number of opioid prescriptions given to people, which in turn has decreased the number of deaths caused by opioid overdose in this state. The other regional states however have yet to make deaths related to opioid overdose a great public concern.

|  |  |  |  |
| --- | --- | --- | --- |
| **States** | **2015** | **2016** | **2017** |
| **National** | **70.6%** | **66.5%** | **58.7%** |
| **Idaho** | **81.9%** | **77.6%** | **70.3%** |
| **Montana** | **73.3%** | **69.8%** | **61.1%** |
| **Oregon** | **84.2%** | **76.3%** | **66.1%** |
| **Washington** | **69.8%** | **64.9%** | **57.2%** |
| **Wyoming** | **75.4%** | **71.1%** | **64.8%** |

**Table 1: Opioid Prescription Rate Per 100 Persons in 2015-2017**

|  |  |  |
| --- | --- | --- |
| **States** | **Opioid**  **Overdose**  **Death Rate Per 100,000** | **All Drug**  **Overdose**  **Death Rate Per 100,000** |
| **National** | **13.3%** | **19.8%** |
| **Idaho** | **7.4%** | **15.2%** |
| **Montana** | **4.2%** | **11.7%** |
| **Oregon** | **7.6%** | **11.9%** |
| **Washington** | **9.4%** | **14.5%** |
| **Wyoming** | **8.7%** | **17.6%** |

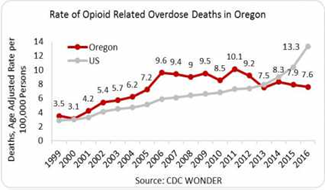
**Table 2: Death Rates Caused by Drug and Opioid Overdose in 2016**

**Table 3: Programs, Counseling Services, and Treatment Centers Provided by Each State**

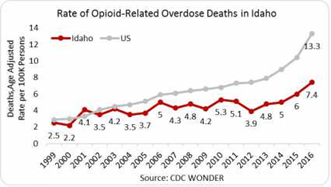
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Idaho** | **Montana** | **Oregon** | **Washington** | **Wyoming** |
| **PDMP** | **PDMP** | **PDMP** | **PDMP** | **PDMPs (Wyoming Online Prescription Database (WORx))** |
| **Data-Driven**  **Prevention**  **Initiative (DDPI)** | **Data-Driven Prevention Initiative (DDPI)** | **Prevention for State program** | **Prevention for State program** | **Emergency Administration of Opiate Antagonist Act during the 2017 legislative session** |
| **IROC services including Medication-Assisted Treatment (MAT)** | **The Montana Injury Prevention Program (MIPP)** | **Oregon Recovery and Treatment Center, LLC** | **WCHS, Inc** | **Wyoming Opiod Addiction Task Force** |
| **Idaho Opioid**  **Misuse and**  **Overdose**  **Strategic Plan,**  **2017-2022.** | **Community Medical Services-Billings, Bozemen, Kalispell and Missoula** | **Medication-Assisted Treatment & Recovery**  **(U MATR) /**  **ORS 430 - Addiction and Mental Health Alcohol and**  **Drug Treatment Program Oversight** | **Evergreen Treatment**  **Unit 1, 2, 3** | **Medication-Assisted Treatment (MAT)** |
| **Raise The Bottom**  **Training &**  **Counseling**  **Services** |  | **House Bill 4143**  **included pilot project** | **Opioid treatment programs (OTPs)** |  |
| **Center for**  **Behavioral**  **Health Idaho, Inc** |  |  | **Enhanced State Opioid Overdose Surveillance** |  |

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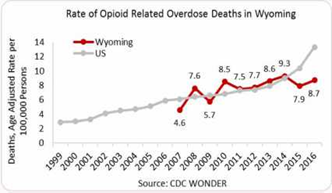
**Graph 1A: Overdose Death Rate in Washington Compared to the National Rate**

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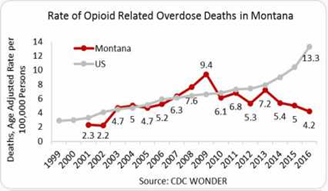
**Graph 1B: Overdose Death Rate in Oregon Compared to the National Rate**

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**Graph 1C: Overdose Death Rate in Idaho Compared to the National Rate**

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**Graph 1D: Overdose Death Rate in Wyoming Compared to the National Rate**

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**Graph 1E: Overdose Death Rate in Montana Compared to the National Rate**

**OLD VERSION**

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**A. REGIONAL PARAMETERS (50% grade):**

**List the drugs of abuse (primary, secondary, others). Include generic, brand and street names**

Based on the diagram “Opioid Retail Distribution in grams(2006-2016) presented at the document “Opioid Needs Assessment” prepared by Idaho Department of Health and Welfare, in **Idaho** between 2011 and 2015 the retail distribution of oxycodone to pharmacies, hospitals and physicians increased from over 13000 grams per 100.000 population to over 17000 grams per 100.000 population. Primary and most abused illicit drug is **marijuana** or commonly used street names (Blunt, Bud, Dope, Ganja, Grass, Green, Herb, Joint, Mary Jane, Pot, Reefer, Sinsemilla, Skunk, Smoke, Trees, Weed; Hashish: Boom, Gangster, Hash, Hemp) is considered a leading drug of abuse.

Between 2008 and 2016, the drug/narcotic violation arrest rate for **heroin** increased more than 15-fold from 0.03 arrests per 1,000 population to 0.46 arrests per 1,000 population.

**Heroin** or commonly used street names(Brown sugar, China White, Dope, H, Horse, Junk, Skag, Skunk, Smack, White Horse)

**In Wyoming** and **Montana** the leading position takes **marijuana**, followed by stimulant including **methamphetamine**(Bennies, Black Beauties, Crosses, Hearts, LA Turnaround, Speed, Truck Drivers, Uppers). **Cocaine** (Blow, Bump, C, Candy, Charlie, Coke, Crack, Flake, Rock, Snow, Toot)abuse in **Wyoming** remains stable at relatively low levels. In **Washington i**n 2006 **cocaine** was by far the most common drug. Recovery Helpline calls for **heroin** declined somewhat in 2017 to 1,337 after being at their highest level in 2015 (1,702). Conversely, callers asking for information about and referrals to the opioid use disorder treatment medication buprenorphine totaled 425, more than the 287 in 2016 or any previous year. **Fentanyl** cases totaled 9 in 2017, the same as in 2012 (unknown if illicit or pharmaceutical), the form (e.g. powder, tablet or mixed into other drugs) for these cases is not known. **Methamphetamine** is the second most mentioned drug by callers to the helpline in 2017 with 861 calls, down somewhat from the peak of 1,000 calls in 2015.**Methamphetamine** remains the most common drug detected in police evidence testing with 307 cases in 2017, down slightly from 2006, and well below the peak of 902 in 2005.

(<http://adai.uw.edu/pubs/pdf/2017drugusetrends.pdf>)

4. Quaternary Drug – Generic Name: Methadone

Brand Names: Diskets Dispersible, Dolophine, Methadone HCl Intensol, Methadose

Street Names: Meth, Dolls, Jungle Juice, Maria, Salvia, Wafer, Chocolate Chip Cookies



**Legal vs. illegal status and drug schedule designation**

**Washington- Marijuana, oxycodone, methamphetamine**

Controlled Substances Schedules I - marijuana

Controlled Substances Schedules II - Oxycodone, amphetamines

**Oregon- marijuana, oxycodone, methadone**

Controlled Substances Schedules I - marijuana, opoids (oxycodone, methadone)

**Idaho-marijuana, methamphetamines, methadone**

Controlled substances Schedule 1-marijuana

Controlled substances Schedule 2-methamphetamines, methadone

**Wyoming-marijuana, methamphetamines, oxycodone**

Controlled substance Schedule 1-marijuana, methamphetamines

Controlled substance Schedule 2-oxycodone

**Montana-marijuana, methamphetamines, oxycodone**

Controlled substance Schedule 1-marijuana

Controlled substance Schedule 2-oxycodone, methamphetamines

-The mentioned drugs are available legally through a prescription from a licensed professional to treat diseases and conditions such as extreme pain, ADHD, ADD, cancer and glaucoma. These substances can only be administered through prescriptions however they are being illegally abused as the populations consume these drugs at a rate far greater than it is prescribed by practicing physicians.

**History of accessibility to drugs (points of entry to the region)**

: According to the research, major driver of drug and opioid overdoses occur through prescription of opioid analgesics as well as illegal opioids like heroin and non-drug fentanyl. Especially, people who were injured and went to emergency room has been prescribed opioid analgesics as pain killers. And anyone who has taken opioids has the risk of developing addiction depends on dosage that was prescribed. To compare our regions, Washington had the lowest prescription rate of opioids compared to the national rate, and the other four states had a higher prescription rate than the national rate.

Furthermore, the research showed that many teens obtain illegal drugs, particularly from prescription drugs of their family members, friends, or relatives. Since prescription opioids were prescribed without thorough consultation of explaining about abused potential. The patient who has been prescribed tend to poorly store their medicine and even sharing with others for analgesic purpose without knowing its risk and danger. Thus, widely available opioid analgesics in the home, teens could have easy access and even share with their friends in school.

Table of 2015-2017 Opioid Prescriptions rate per 100 persons

|  |  |  |  |
| --- | --- | --- | --- |
| States | 2015 | 2016 | 2017 |
| National | 70.6 | 66.5 | 58.7 |
| Idaho | 81.9 | 77.6 | 70.3 |
| Montana | 73.3 | 69.8 | 61.1 |
| Oregon | 84.2 | 76.3 | 66.1 |
| Washington | 69.8 | 64.9 | 57.2 |
| Wyoming | 75.4 | 71.1 | 64.8 |

**Socioeconomic history**

We were not able to establish direct relation between opioid overdose and socioeconomic status of the states that we were working with, however after Investigation of drug abuse trends in Northwest Region, we realized that Washington had the highest rate of opioid overdose . We assume that there is a correlation between increased drug consumption in this state and high unemployment rates. There is a hypothesis that people with low income who do not have health insurance feel socially discriminated, when the need arises they cannot afford out of pocket visit to the doctors therefore decide to do self treatment take drugs without recommendation of the doctors and over period of time become dependent. Since there are 32 Public Housing and Project-Based Voucher Waiting Lists in Washington the problem with people who are uninsured and do not have sufficient funds to rent an apartment are more likely to become victims of opioid overdose. In fact currently we do not have evidence to prove this claim and it still remains the subject for the further research.

**Demographics of age**

**Washington-** Estimates from the 2010–2011 National Survey on Drug Use and Health 10 indicates that among the population in Washington, about 39% (±4%) ages 18–25 and 11% (±2%) ages 26 and older reported marijuana use within the past year. Approximately 13% (±3%) ages 18–25 and 4% (±1%) ages 26 and older reported nonmedical use of pain relievers within the past year.

**Oregon-** The rate of drug abuse is roughly the same across all age categories starting at 12 years and older.

**Idaho-**The age group with the highest rates of marijuana use in Idaho were those between the age of 12-17 years old. The use of amphetamines is reported more frequent among people ages 26-30 years of age.

**Wyoming-** According to the SAMHSA National Survey on Drug Use and Health in 2013-2014, non-medical use of prescription pain relievers was among the top five substances of abuse for people 12-25 years of age. The average age of illicit drug use throughout 2006-2015 in Wyoming was reported to be 40 years of age.

**Montana-**In 2010, it was reported that the largest population of those dependent on marijuana range from 12-17 year olds at 29.5%. The largest population of those abusing amphetamine and methamphetamine ranged from 26-30 year olds at 23.7%.

**Rise in opioid abuse – compared to national average**

According to the research, drug overdose death have been rise nationally. In 2016, the national average of opioid overdose death rate per 100,000 was 13.3 which is higher compared to the regions we were assigned. Among our regions the average of opioid overdose rates were Idaho 7.4, Montana 4.2, Oregon 7.6, Washington 9.4 and Wyoming 8.7 Montana has the lowest rate and Washington has the highest rate for opioid overdose deaths among our regions.

|  |  |  |
| --- | --- | --- |
| States | Opioid  Overdose  Death Rate Per 100,000 | All Drug  Overdose  Death Rate Per 100,000 |
| National | 13.3 | 19.8 |
| Idaho | 7.4 | 15.2 |
| Montana | 4.2 | 11.7 |
| Oregon | 7.6 | 11.9 |
| Washington | 9.4 | 14.5 |
| Wyoming | 8.7 | 17.6 |

**If applicable, oversight of opioid prescribing**

Opioid Pain reliever prescriptions:

In 2015, **Oregon** providers wrote 78.1 opioid prescriptions per 100 persons (3.1 million prescriptions). In the same year, the average U.S. rate was 70 opioid prescriptions per 100 persons.

In 2015, **Washington** providers wrote 68.2 opioid prescriptions per 100 persons (4.88 million prescriptions). In the same year, the average U.S. rate was 70 opioid prescriptions per 100 persons

In 2015, **Idaho** providers wrote 76.4 opioid prescriptions per 100 persons (approximately 1.3 million prescriptions. In the same year, the average U.S. rate was 70 opioid prescriptions per 100 persons

In 2015, **Montana** providers wrote 90 opioid prescriptions per 100 persons (approximately 722,011 prescriptions)—more than the average national rate of 70 opioid prescriptions per 100 persons

In 2015, **Wyoming** providers wrote

**If applicable, oversight of local pharmacy opioid inventory**

There have been no reports documenting the oversight of local pharmacy opioid inventory in Washington, Oregon, Idaho, Wyoming or Montana.

**Pharmacology of the drugs of your region (include mechanism(s) of action, potential for abuse, adverse effects)**

Among our regions Marijuana, Heroin, Methamphetamine, Cocaine, and Fentanyl are in use and has abuse potential. Generally, opioids can bind to three receptors; Mu, Kappa, and Delta found in the nervous system and slows the transmission of pain impulses between cells in the periphery, spine, and brain.

Those opioids can be administered differently but they can work in a similar way because, in fact, they have a similar chemical structure to natural neurotransmitter and have the ability to lock onto and activate nerve cells in the same way as natural neurotransmitters.

They can target the brain's reward system, synthesized in response to pain stimuli and change pain signals and work as CNS stimulant. For instance, heroin can reduce the pain by binding to those receptors and decrease the release of neurotransmitter into the synaptic cleft. Moreover, cocaine and methamphetamine can bind to receptors and inhibits monoamine reuptake which may increase the concentration of dopamine, seratonin, and norepinephrine in the synaptic cleft.

Except for heroin and cocaine, all those drugs mentioned above are considered safe when taken for a short time as it was prescribed by a doctor, however, because of it has euphoria effect in addition to pain relief, people can be misused and cause addiction.

As the adverse effect caused by excessive doses can lead to respiratory depression, coma and death from respiratory failure.

**Regional overdose history – last 30 years**

Since tendencies of overdose are similar in the states of Northwest region we examined Washington as a representative. Based on diagram presented by National Institute of Drug Abuse Opioid related overdose death in Washington significantly increase from 5.4 in 2001 to 10.6 in 2009. Minor drop in the linear curve was noted in 2010 to 9.3. Then the number stabilized over 5 years and came up to 10.3 in 2015. Highest number of opioid related overdose in Washington was noticed in 2009 (708)



**Regional medical community response**

Washington, Oregon, Idaho, Wyoming and Montana are all located within the western region of the US. The medical community has responded to the rise in drug abuse by creating institutions for rehab, providing counseling, developing drugs to prevent death from overdose, providing patient education on addiction and proper medication disposal to patients and their families, making sure pharmacies and health care providers adhere to the laws that regulate drugs dispensed and reporting any misuse to law enforcement agencies. WHO, an agency that deals with international public health including that of the Western region of the US, is the only agency that dealing with all psychoactive substances. WHO focuses on prevention and reduction of the negative health and social consequences of psychoactive substance use, reduction of the demand for non-medical use of psychoactive substances, and the assessment of psychoactive substances as to advise the United Nations with regard to their regulatory control.

**Regional legislative response, including treatment centers**

In general, all of our region's local legislatures are aware of the seriousness of opioid drug overdose/abuse and are making laws, funded for program or creating treatment centers to prevent them and help addictive treatments. As one of preventive method, a prescription drug monitoring program (PDMP) which is an electronic database that tracks controlled substance prescriptions in a state is implemented for all of our regions. According to the research, PDMPs can provide health authorities timely information about prescribing and patient behaviors that contribute to the epidemic and facilitate a nimble and targeted response.

What is more, each state has built their treatment centers or received funds from CDC or from governors to support efforts to end the opioid misuse, abuse, and overdose. Those programs or treatment centers are aimed at reducing deaths caused by opioid overdoses by providing appropriate treatment, develop strategies based on resources, and support recovery by providing mentor services. Below is the list of programs, counseling services, and treatments centers for each state.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Idaho** | **Montana** | **Oregon** | **Washington** | **Wyoming** |
| PDMP | PDMP | PDMP | PDMP | PDMPs (Wyoming Online Prescription Database (WORx)) |
| Data-Driven  Prevention  Initiative (DDPI) | Data-Driven Prevention Initiative (DDPI) | Prevention for State program | Prevention for State program | Emergency Administration of Opiate Antagonist Act during the 2017 legislative session |
| IROC services including Medication-Assisted Treatment (MAT) | The Montana Injury Prevention Program (MIPP) | Oregon Recovery and Treatment Center, LLC | WCHS, Inc | Wyoming Opiod Addiction Task Force |
| Idaho Opioid  Misuse and  Overdose  Strategic Plan,  2017-2022. | Community Medical Services-Billings, Bozemen, Kalispell and Missoula | Medication-Assisted Treatment & Recovery  (U MATR) /  ORS 430 - Addiction and Mental Health Alcohol and  Drug Treatment Program Oversight | Evergreen Treatment  Unit 1, 2, 3 | Medication-Assisted Treatment (MAT) |
| Raise The Bottom  Training &  Counseling  Services |  | House Bill 4143  included pilot project | Opioid treatment programs (OTPs) |  |
| Center for  Behavioral  Health Idaho, Inc |  |  | Enhanced State Opioid Overdose Surveillance |  |

**Regional media response**

While examining articles in regional media we detected that there is a consistency in information presentation. Mostly journalists confirm that opioid crisis and overdose rate seem to drop in Oregon , however state is now seeing an increase in heroin and fentanyl overdoses.

In April 2018 Molly Harbarger reporter of The Oregonian daily newspaper published an article “Jackson County sees startling spike in opioid overdose deaths”. “Oregon has reduced the number of prescribed opioids, which, [according to the U.S. Centers for Disease Control and Prevention](https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm), has in turn decreased the number of overdose deaths.

However, the state is seeing a significant increase in deaths due to synthetic opioids.So authorities expect either the synthetic opioid fentanyl has moved into the market or a new supplier with stronger heroin.Fentanyl has boomed in the illicit drug market with people who lose access to prescription opioids. It can be cut into heroin without users knowing, causing it to become a leader in a nationwide trend of increasing opioid overdose deaths”.

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