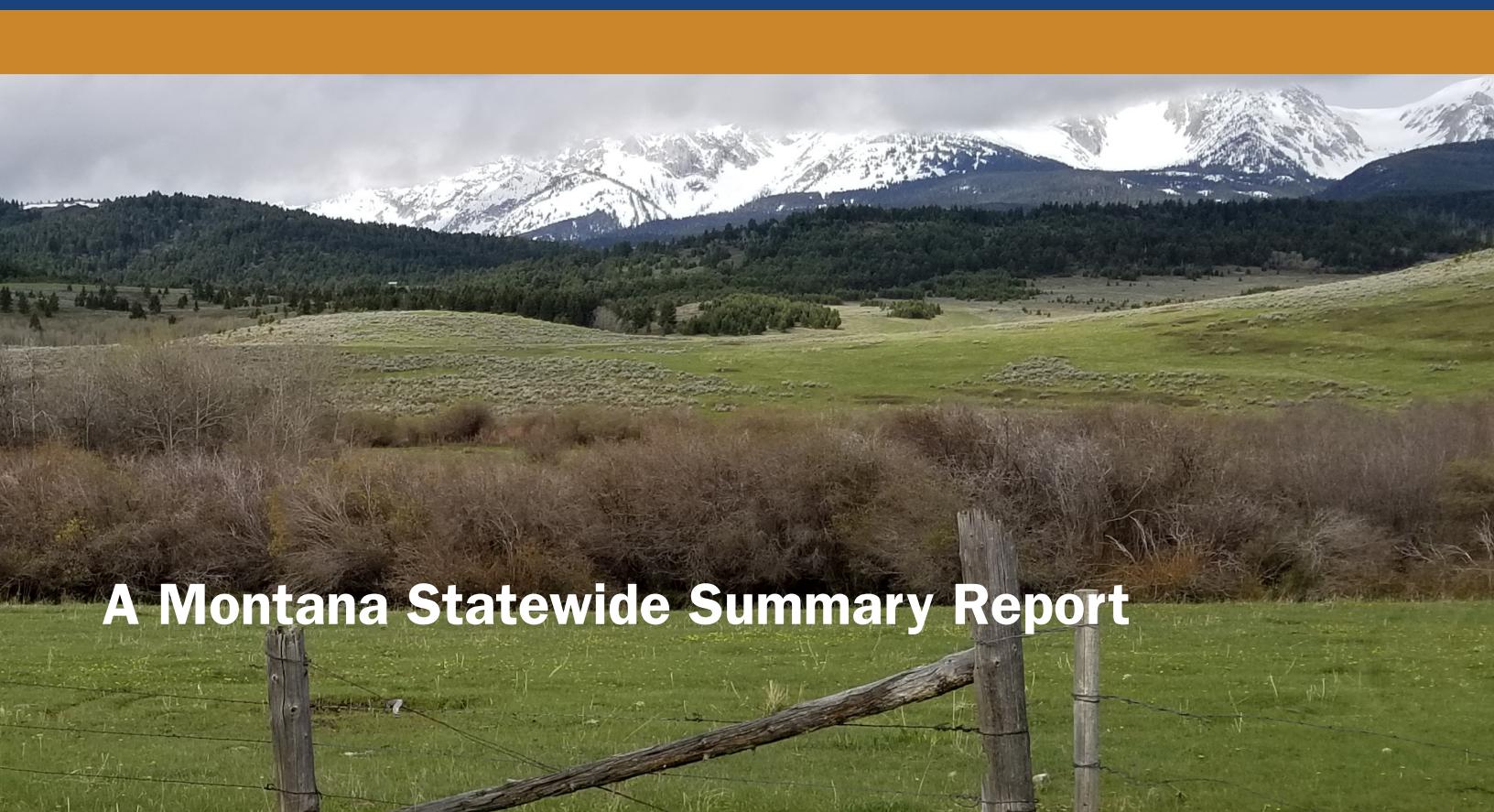


Current Perceptions, Behaviors & Prevention Strategies of Prescription Opioid Misuse



A Montana Statewide Summary Report

by

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Executive Summary

A survey of 379 Montana community members conducted in early 2019 revealed that 65% of respondents state that prescription opioid misuse is a problem in their community. Fifty two percent of respondents state that they know someone who has misused prescription opioids to the extent that it has affected their life, and 21% either currently provide care to someone who has a prescription for opioids or had one in the past. However, underneath these disturbing statistics, lie some hopeful data.

The first has to do with Montanans being willing to both safely store and dispose of their prescription opioids, if given the appropriate education and resources. While 28% of respondents state that they currently keep their unused prescription opioids in their home for 6 months to one year after obtaining their prescription, **78%** of Montanans said they would be likely to use a **prescription take-back box** if there was one available in the community, while **58%** of respondents mentioned that they would utilize a **disposal bag** if one were made available to them. Additionally, although many Montanans report feeling undereducated about the dangers of prescription opioid use, **72%** of Montanans reported that they would be likely to **share information** they had regarding the dangers of opioid use with their age-appropriate children. In terms of where respondents are likely to go for information, Montanans cited the **Internet, health care providers, and their family and friends** as resources to which they would turn.

Such information and statistics should provide us confidence that with accessible prescription opioid storage and disposal resources as well as properly placed, widely disseminated educational materials, we can work together to help lower the rates of prescription opioid misuse throughout the state of Montana.

Current Perceptions, Behaviors and Prevention Strategies of Prescription Opioid Misuse: A Statewide Summary Report

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Introduction

Prescription opioids are often used to treat both acute and chronic pain. When used appropriately, opioids can be an effective component of a medical treatment plan. However, serious risks (including misuse, opioid use disorder (addiction), overdoses and death) are associated with their use and are becoming more prevalent nationwide since the 1990s when the number of prescribed opioids to patients began to grow (CDC, 2018).

Since 2000, more than 300,000 Americans have died from overdoses involving opioids (Warner, 2018). This number has continued to climb. In 2017, it was estimated that 46 people in the United States died every day from overdoses involving prescription opioids (CDC, 2018). According to results from the 2017 National Survey on Drug Use and Health, an estimated 2 million Americans misused prescription pain relievers for the first time within the past year, which averages to approximately 5,480 initiates per day (NIH, 2018).

In addition to the lives lost and the emotional toll this crisis has taken, it is estimated that this opioid epidemic has cost the United States \$504 billion. These statistics led The United States Department of Health and Human Services to declare prescription opioid misuse a public health emergency in 2017.

In Montana, more than 700 individuals have died from an opioid overdose since the year 2000¹. Nearly 50% of these opioid-related deaths in Montana are people aged 45 years of age or older, due in part to the fact that aging adults are prescribed opioids in larger amounts and dosages than any other age group (U.S. Office of the Inspector General, 2017). Additionally, the Centers for Disease Control and Prevention (CDC) recently stated that death rates from drug overdoses in rural areas have now surpassed drug overdose death rates in urban areas (CDC, 2017). The fact that this crisis is impacting middle age and older adults in rural areas at a higher rate than other groups across the country has made it a priority issue for Montana State University Extension. The administration of this survey is part of a larger two-year, USDA-funded project entitled '*Educating and Empowering Aging Populations in Rural Montana about Opioid Misuse and Abuse*' (bit.ly/2MEGyZw).

Survey Participants

Three hundred and seventy nine Montanans were surveyed between December 2018 and May 2019. Since the focus of this USDA project is specifically older adults from rural areas, only Montanans over the age of 45 from 'rural counties'² were asked to participate³. Figure 1 and Table 1 illustrate where in Montana the 379 survey respondents reside; notice that although not all counties are represented, numerous rural counties, such as those in Northern and Eastern Montana, are.

Fifty three percent of the survey respondents identify as female, while 46% identify as male, and 1% identify as non-binary. In terms of education, employment status, household size, and household income, a diverse sample of respondents was reached:

Education: 54% have college degrees, 44% completed high school, and 2% have not completed high school.

Employment Status: 49% are employed, 9% are not employed, and 34% are retired.

Household Size: 57% have two people in their household, 22% have three to four, 6% have five or more, and 15% live alone.

Household Income: Respondents' incomes range from less than \$10,000 annually to more than \$150,000 annually.

Many of the questions that were asked on the survey pertain to individuals' perceptions and thoughts about the dangers of prescription opioid use, and whether or not individuals are witnessing this crisis take hold in their Montana communities. Before exploring this data, however, it is important to first provide a brief history of the prescription opioid crisis.

¹ Many public health officials and physicians in Montana, however, believe that this official number is too low, as many opioid-related deaths go unreported.

² Montana residents from the following seven urban counties were excluded from the survey: Cascade, Flathead, Gallatin, Lewis and Clark, Missoula, Silver Bow and Yellowstone.

³ This N yields a representative sample of rural Montanans over the age of 45.

Figure 1: Survey respondents by location in Montana (N=379)

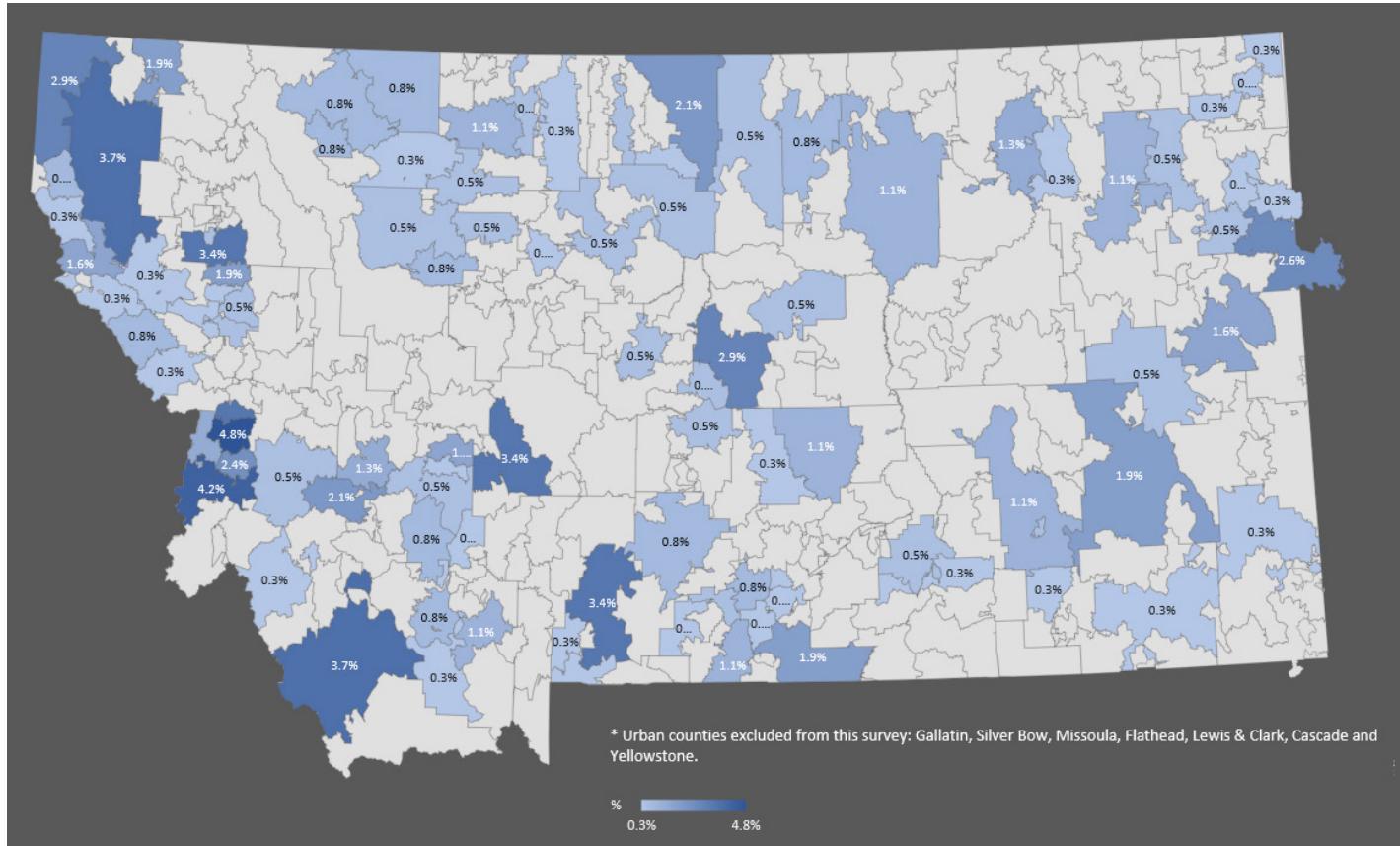


Table 1: Total respondents by city/town as shown in above map (N=379)

Absarokee	2	Cut Bank	3	Hingham	2	Ronan	7
Alberton	1	Deer Lodge	5	Jefferson City	1	Roundup	4
Anaconda	8	Dillon	14	Joliet	1	Roy	2
Antelope	1	Dixon	1	Judith Gap	2	Saint Ignatius	2
Arlee	2	Dutton	2	Lambert	2	Saint Marie	2
Basin	1	East Glacier Park	3	Lame Deer	1	Saint Regis	1
Big Arm	2	Ekalaka	1	Lavina	1	Shelby	4
Big Sandy	2	Emigrant	1	Lewistown	11	Sheridan	3
Big Timber	3	Ennis	4	Libby	14	Sidney	10
Boulder	2	Eureka	7	Livingston	13	Stanford	2
Box Elder	1	Fairfield	3	Malta	4	Stevensville	18
Brider	7	Fairview	1	Melstone	1	Stryker	1
Broadus	1	Florence	13	Miles City	7	Superior	3
Browning	3	Floweree	1	Moore	2	Terry	2
Cardwell	1	Forsyth	4	Nashua	1	Thompson Falls	6
Charlo	1	Fort Benton	2	Noxon	3	Townsend	13
Chester	1	Fortine	1	Nye	1	Trout Creek	1
Chinook	2	Galata	2	Pablo	1	Troy	11
Choteau	2	Gardiner	1	Park City	1	Valier	1
Clancy	6	Glasgow	5	Philipsburg	2	Victor	5
Colstrip	2	Glendive	6	Plains	1	Virginia City	1
Columbus	3	Hamilton	16	Polson	13	Westby	1
Conrad	2	Hardin	2	Poplar	2	Whitehall	3
Corvallis	9	Harlem	3	Red Lodge	4	Wisdom	1
Crow Agency	1	Havre	8	Reserve	1	Wolf Point	4
Culbertson	1	Hays	1	Roberts	1		

History of the Prescription Opioid Crisis⁴

1800s	In the early 1800s, German pharmacist Friedrich Serturner became the first to isolate and extract the alkaloid from the poppy plant which resulted in the creation of morphine, named after the Greek god of dreams, Morpheus (Krishnamurti & Rao, 2016). Throughout the late 1800s, wounded soldiers were administered large amounts of morphine to treat pain. However, research suggests that the majority of those addicted to the substance were women, as they were diagnosed with pain at a higher rate than men (Courtwright, 2019).	Since then, the United States has experienced extremely high levels of deaths related to prescription opioid misuse.
1900s	By the early 1900s, tens of thousands of Americans were addicted to morphine. By 1914, in response to both the emergence of street heroin abuse as well as morphine dependence, both physicians and patients were advised to avoid opiates. This avoidance continued into roughly the 1990s, when some in the medical community wondered why opioids were avoided entirely for patients experiencing chronic pain.	Since 2013, there has also been an emergence of synthetic opioids – highly potent, manufactured drugs that mimic naturally occurring opioids. One of these synthetic opioids, fentanyl (which is 80 – 100 times stronger than morphine) was the cause of nearly 20,000 additional drug related deaths in 2016 (Liu, L., Pei, D., & Soto, P., n.d.).
1995	By 1995, the American Pain Society urged more aggressive and long-term use of opioids for chronic, non-cancer pain. Simultaneously, Purdue Pharma released an extended release formulation oxycodone (known as OxyContin®).	Given the severity of this public health issue, numerous States are passing laws to help lessen this crisis; for example, the Montana legislature recently passed House Bill 86 which limits first-time prescription to no more than 7 days. Additionally, it, “combats the doctor-shopping that feeds addiction by requiring physicians to utilize Montana’s prescription drug registry” (Montana Department of Justice, 2019).
1997-2002	Between 1997-2002, OxyContin® prescriptions in the United States increased from 670,000 to 6.2 million (Jones, M.R. et al, 2018); shortly after, in 2007, Purdue Pharma pleaded guilty to federal charges related to misbranding OxyContin® and to misleading both physicians and the healthcare industry by overstating the benefits of opioids for chronic pain and for failing to state the risks (Jones, M.R. et al, 2018).	
2007		

⁴ See Appendix A for a more detailed historical timeline of the prescription opioid crisis in the United States.

Perceptions of Opioid Use & Misuse

Fifty five percent of the 379 Montanans surveyed indicated that they believed prescription opioids are a reliable way to manage pain. This statistic did not vary much by gender, as 51% of women agreed with this statement, while 59% of men agreed. Along the same lines, roughly half of respondents (53%) consider opioid use as “bad”.

However, attitudes and perceptions shift when the conversation becomes about ***misusing*** prescription opioids. When asked if opioid misuse was “bad”, 82% of respondents agreed.

To take this one step further, when presented with the definition of prescription opioid misuse, 65% reported that opioid misuse is a problem in their community. Survey data suggests that this sentiment does not vary much by household income (see Table 2). These data highlight that the prescription opioid crisis is far reaching in Montana and is not impacting members of just one income bracket.

Table 2: Respondents in agreement with the statement, “opioid misuse is a problem in my community” by income

Annual income	Percent who agree
Less than \$10,000	61%
\$10,000 - \$19,000	71%
\$20,000 - \$29,000	62%
\$30,000 - \$59,000	61%
\$60,000 - \$89,000	71%
\$90,000 and above	64%

Along these same lines, 52% of respondents reported that they personally know someone who has misused prescription opioids to the extent that it has affected their life. Figure 2 illustrates where in Montana these 197 respondents (52%) reside.

What is an opioid?

An opioid is a prescription medication (pill or patch) prescribed for pain relief. It is common to see the terms “opioids” and “ opiates”. Opiates are derived naturally from the flowering opium poppy plant. Opioids (which include opiates) refer to any substance (synthetic or non-synthetic) that binds to the opioid receptors in the brain. Both opiates and opioids have the potential for abuse and addiction. The illegal drug heroin is also an opioid. However, for the purpose of this survey, “opioid” refers to prescription opioids. Examples of prescription opioids include:

- Natural opioids: Pain medications like morphine and codeine
- Semi-synthetic opioids: Pain medications like oxycodone, hydrocodone, hydromorphone, and oxymorphone
- Synthetic opioids: Fentanyl, Methadone (an opioid used to treat pain, but it can also be provided through opioid treatment programs to treat opioid use disorders)

What is opioid misuse?

Opioid misuse is defined as taking a medication in a manner or dose other than prescribed; taking someone else's prescription, even for a legitimate medical complaint such as pain; or taking a medication to feel euphoria (i.e., to get high) (CDC, 2018).

“Our community is full of opioid abuse.”

- 52-year-old woman from Lame Deer, MT

“I am losing friends and family members.”

- 60-year-old man from Conrad, MT

“This crisis has affected my small community with undesirable consequences such as a meth problem beginning to affect very young children.”

- 56-year-old man from Troy, MT

Perceptions of Opioid Use & Misuse Cont'd

Figure 2 helps to paint the picture that the prescription opioid crisis is geographically far reaching in Montana, with nearly each county having at least one individual respond 'yes' when asked if they know someone who has misused prescription opioids *to the extent that it affected their life*.

Furthermore, Table 3 shows the responses to the statement 'Opioid misuse is a problem in my community'; notice that far more respondents 'agreed' than 'disagreed'.

Our survey data helps to show that the opioid misuse problem is far reaching in Montana, which, if looking solely at one opioid misuse indicator, can get overlooked.

The scale of the opioid misuse problem in Montana, however, can easily get overlooked if one solely relies on just one indicator. For example, Figure 3

shows the opioid overdose death rate. Only those deaths that had an opioid listed as a cause of death are able to be included in this statistic⁵. If stakeholders only look at this metric, they may not obtain a full picture as to the extent of this crisis; additionally, such data collection limitations may contribute to opioid misuse underreporting⁶. We recommend looking at a variety of indicators simultaneously when trying to understand this crisis; for example, Montana DPHHS also reported that between the years of 2007 - 2017 there were 692 opioid-related deaths across the State, and that 42 out of 56 counties had at least one opioid-related death during that time frame.

⁵ Not included in the opioid overdose deaths by county statistic are any cases where the cause of death was listed as 'mixed drug toxicity'. Additionally, DPHHS can only report out counties that had 20 or more opioid-related deaths during a specific time period.

⁶ See Appendix B for more information regarding the underreporting of the prescription opioid crisis.

Figure 2: Geographic location of the 52% of respondents who know someone who has misused prescription opioids to the extent it affected their life

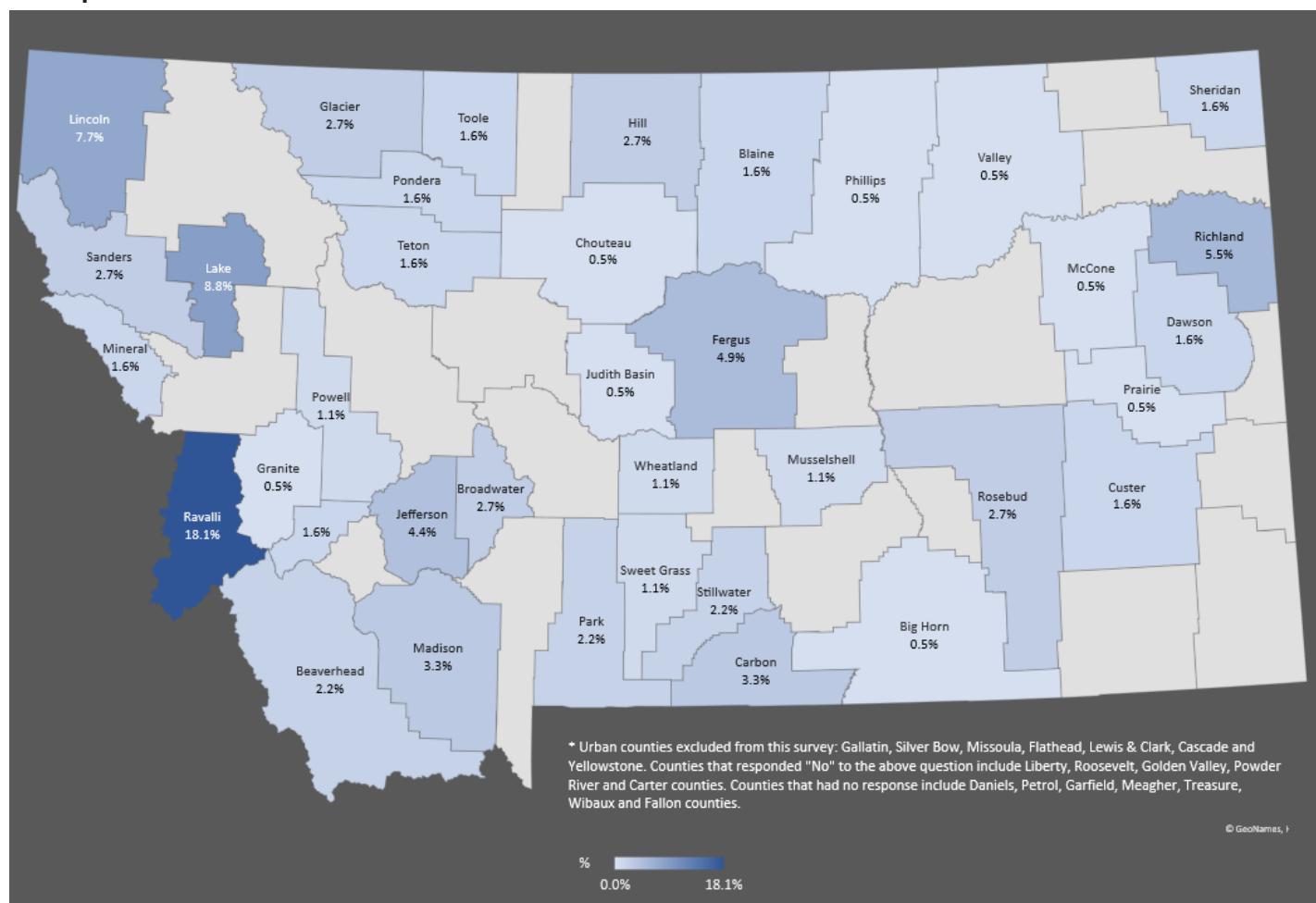
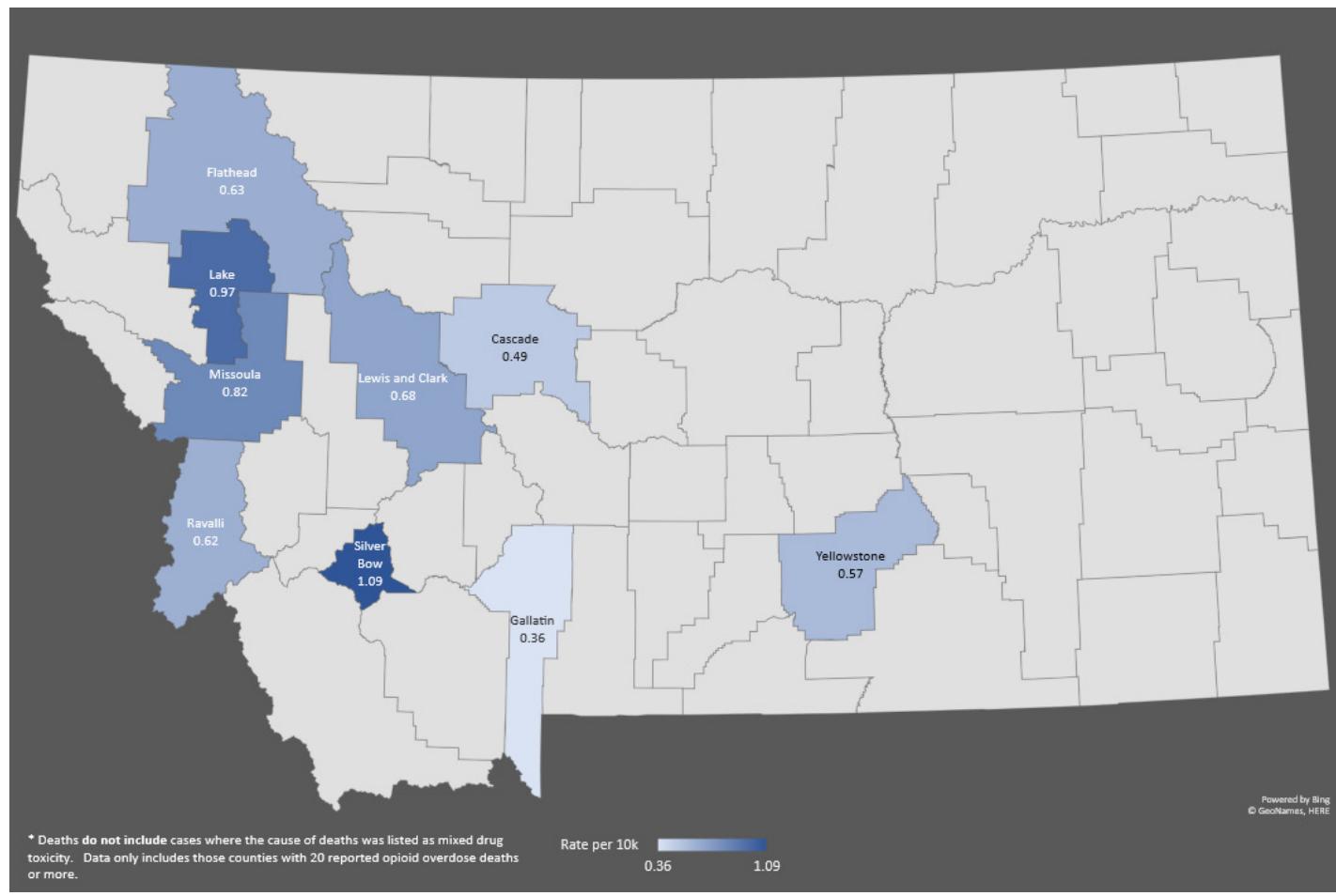


Table 3: Responses to the statement ‘Opioid misuse is a problem in my community’ by county

County	Agree	Neutral	Disagree	County	Agree	Neutral	Disagree
Beaverhead	10	3	2	McCone	3	1	0
Big Horn	2	0	1	Mineral	5	0	0
Blaine	6	0	0	Musselshell	4	1	0
Broadwater	3	7	3	Park	8	7	0
Carbon	9	2	0	Phillips	3	1	0
Carter	0	1	0	Pondera	3	0	0
Chouteau	1	2	2	Powder River	1	0	0
Custer	4	3	0	Powell	5	0	0
Dawson	3	2	1	Prairie	1	0	1
Deer Lodge	5	3	0	Ravalli	41	16	4
Fergus	11	3	1	Richland	11	4	1
Glacier	6	3	0	Roosevelt	0	1	0
Golden Valley	1	0	0	Rosebud	5	1	1
Granite	1	1	0	Sanders	6	5	1
Hill	8	2	1	Sheridan	3	0	0
Jefferson	10	3	0	Stillwater	2	5	0
Judith Basin	1	1	0	Sweet Grass	1	1	1
Lake	23	3	2	Teton	5	1	1
Liberty	0	3	0	Toole	3	1	0
Lincoln	23	7	4	Valley	3	3	2
Madison	7	2	0	Wheatland	1	1	0

When reading this table, keep in mind that certain counties had more individuals respond to the survey (i.e. Ravalli County), and some had much fewer (i.e. Powder River County).

Figure 3: Montana Department of Public Health & Human Services (DPHHS) reported opioid overdose death rate per 10,000 people by county, 2007-2017



Opioid Use Behavior

Frequency of Prescription Opioid Use

According to the CDC (2017), there are currently 61.1 painkiller prescriptions written for every 100 Montanans annually. To better understand the supply-side of this crisis, we included questions surrounding the frequency of prescription opioid use.

Table 4 illustrates the time frame in which survey respondents last had a prescription for an opioid. Although this data is simply looking at *use*, not necessarily *misuse* of opioids, it does provide a better idea of the percentage of Montanans who have been given access to one of these drugs.

Table 4: Timeframe and frequency of prescription opioid use (N = 379)

Had a prescription for an opioid in the past	74%
Had a prescription for an opioid within the past year	32%
Identify as daily users of prescription opioids ⁷	6%

Although only 6% of Montanans surveyed reported being daily users of prescription opioids⁸, 32% reported having a prescription within the past year.

Where are Individuals Getting their Prescription Opioids?

In addition to asking questions regarding the frequency of use, it is also important to better understand where Montana community members are getting their prescription opioids. Ninety three percent reported getting their prescription opioids from a medical provider. Of the remaining 7% (27 individuals) who stated that they had received their opioids from someone other than a medical provider, 14 individuals received their opioids from a family member, 11 from a friend, while only 3 reported getting them from “off the street”. While the low rate of “street opioids” is positive, it does highlight that the majority of the prescription opioid supply for Montanans above the age of 45 is initially coming from medical providers.

⁷ ‘Daily use’ is defined as 30 days of use in the last 30 days.

⁸ It should be noted that there is a chance that these ‘daily users’ are in fact using the drugs to manage their chronic pain as prescribed and are not misusing the drugs.

Household Accessibility

In order to help us determine the likelihood that these prescription medications have a risk of getting into the hands of other family members and/or friends/other community members, we also inquired as to whether and how long survey respondents keep unused prescription opioids in their home. Data suggests that roughly half of respondents keep their unused prescription opioids in their home for at least 6 months.

Table 5 provides detail as to how long Montana community members keep their unused opioids in their home, as well as illustrates how these behaviors differ by gender.

Table 5: Percentage of respondents who keep their prescription opioids in the home for 0 months – 3 years (N=379)

Timeframe	Total	Women	Men
0 months	54%	55%	52%
6 months	17%	17%	16%
1 year	11%	10%	13%
2 years	6%	7%	5%
3 years	12%	11%	14%



ACTION ITEM: Since nearly half of respondents keep their unused prescription opioids in their home for at least 6 months, more education surrounding the benefits of proper disposal and ways to safely store prescription opioids is needed.

Opioid Use Behavior Cont'd

Household Accessibility (Cont'd)

Respondents were open to sharing some of the reasons why they kept unused prescriptions in their home. Reasons included: "It is just my husband and myself, so I do not need to lock up any prescriptions", "I have adult grandchildren living with me but have never seen any attempt at opioid misuse from them, so I do not lock up any meds", and "I don't have a way to lock up prescriptions in my house". However, data also suggests Montana residents do consider safe storage to be extremely important. Seventy one percent of respondents indicated that keeping their prescription opioids out of reach in their homes was 'extremely important' (See Table 6).

Table 6: Community members' ranking of importance of opioid use-reduction behaviors

Behavior	Percent that said "extremely important"
Monitoring my own prescription opioid use	75%
Keeping prescription opioids out of reach in my house	71%
Monitoring the prescription opioid use of family members	63%
Discussing prescription opioid use with my children	61%
Locking up prescription opioids in my house	59%
Doing something about the opioid crisis	53%
Discussing prescription opioid use with my friends	22%

The data in Table 6 is promising as it illustrates that a high percentage of respondents believe that monitoring their own prescription opioid use, keeping medications out of reach in the home, and monitoring the prescription opioid use of family members is very important. This community 'buy-in' is a great first step – in this next section, proper storage and safe disposal information is presented, in addition to relevant survey data.



Proper Storage and Safe Disposal as Effective Prevention Methods

Medication Storage

Today, in Montana, more than 7,400 grandparents are raising their grandchildren without parental involvement (Elliott, 2018). Storing medications safely (out of reach and sight) from these children is of the utmost importance. Researchers at the Yale School of Medicine (2019) analyzed CDC mortality data and found that the use of prescription and illicit opioids caused the deaths of almost 9,000 children and adolescents in the U.S. between 1999 and 2016 (Gaither, J., Shabanova, V., & Leventhal, J., 2018). During the same time, the pediatric mortality rate from opioid poisoning increased more than twofold. It is important to note that many commonly prescribed opioids do not come in childproof packaging. Researchers also warned that as medication-assisted treatment for opioid use disorder increases among adults, children and adolescents will be more likely to be exposed to FDA-approved treatment-assistance opioids such as methadone and suboxone unless more restrictive safety measures are put in place.

To ensure proper storage of medications, either keep them in the child-resistant container (if they came in one) or place them in a locked storage space (i.e. locked cabinet, safe or lockbox). Also, instead of 'keeping medicine handy', use reminder tools such as setting reminders on your watch or phone, leave notes out where they will be looked at often, or combine taking medications with a daily activity such as brushing teeth - and only when ready to take the medication, take it

Rise in Elder Abuse

Experts suspect the rise in elder abuse is tied to the opioid epidemic. The National Committee for the Prevention of Elder Abuse says substance abuse is a factor in many types of elder abuse, including physical mistreatment, emotional abuse and financial exploitation by family members abusing opioids, and self-neglect by elders using opioids (Benson & Aldrich, 2019). All efforts need to be made in educating aging adults about how to safely (and discreetly) store medications in the home.

Medication Disposal

There are currently three proper disposal options that take human safety AND the environment into consideration.

Method 1: Take-Back Boxes

Disposing of unused medications in a take-back box (see Figure 4) is the preferred method of safely disposing of household medications. These take-back options are available either through periodic events held at the national or community level⁹ or at permanent collection receptacles that reside at law enforcement offices, pharmacies, or at other secure locations.

According to our survey, while 80% of Montanans surveyed ranked “disposing of prescription opioids” as important, only 55% of respondents had heard of a prescription take-back box before taking the survey. After reading about what a take-back box is on the survey, 78% stated that they would be either *likely* or *extremely likely* to use a prescription take-back box to dispose of their unused medication.



Figure 4: Image of a take-back box.

Eighty six percent of survey respondents ranked “having a prescription take-back box in my community” as important.



⁹ One example of this is the Drug Enforcement Administration’s ‘National Prescription Drug Take Back Day’. The most recent Take Back Day took place on April 27, 2019 and included 35 collection sites in Montana.

<https://takebackday.dea.gov/sites/default/files/NTBI%2017%20Totals-April2019.pdf>

Table 7 illustrates where community members would like to see medication take-back boxes located in their communities.

Table 7: Respondents’ top choices for where in their community they would be most likely to use a medication take-back box.

Pharmacy	95%
Medical Clinic	95%
Hospital	93%
Law Enforcement Office	73%
Church	61%
City Hall	59%
Grocery Store	57%

Existing take-back boxes in Montana

According to the Montana Department of Health and Human Services, there are 164 take-back boxes in Montana as of August 2019. Fifty of the boxes are located in police departments or sheriff’s offices, 76 are in pharmacies, and 38 are in health clinics or hospitals. A complete mapping of take-back-box locations can be found here: <https://dphhs.mt.gov/amdd/substanceabuse/dropboxlocations>.

ACTION ITEM: More take back boxes need to be placed at pharmacies, medical clinics and hospitals around the state, in addition to those at law enforcement offices (if they are able to be placed securely).

Method 2: Deterra® Deactivation Pouch

The Deterra® Deactivation Pouch (See Figure 5) contains a dry chemical, that when water is added, deactivates the medication rendering the medicine ineffective and makes them safe to dispose of in the household trash. While 86% of Montanans surveyed had not heard of a Deterra® Deactivation Pouch before, 58% said they could see themselves using one to dispose of prescription opioids once they read about this disposal method.

However, an additional 23% of respondents were still unsure if they would use a Deterra drug deactivation pouch, even after they had read about it. Some of these respondents stated they would not want to make a special trip to get one, but would use it if it came with their prescription.

Others were ‘unsure’, simply because they did not know where to get one, or how much it would cost.

If your community does not have a take-back box and you also do not have access to a Deterra® disposal bag, the third option is to properly dispose of your unused medications in your household.

Method 3: Household Disposal

There are two options for household disposal: flushing medications and disposing of them using household items.

Flush medications down the toilet: Some medicines have specific instructions to immediately flush them down the toilet when no longer needed and a take-back option is not available. Please refer to this list to decipher whether a medication is recommended for flushing <https://www.fda.gov/media/85219/download>.¹⁰

¹⁰ More medication disposal information can be found here: <https://www.accessdata.fda.gov/scripts/cder/daf/>.



Figure 5: Image of a Deterra® Drug Deactivation Pouch

When asked why they were unsure or would not use a medical disposal bag, community members responded:

“I’d rather dispose of meds completely rather than mixing with water and disposing myself. It would be more convenient and less messy.”

-73-year-old woman from Sidney, MT

“I don’t know how it works; where would I get one? How much does it cost?”

-54-year-old woman from Havre, MT

“If it came with the prescription, I would probably use it. If I had to make a special trip to get it, I would most likely not use it.”

-60-year-old man from Glasgow, MT

Medications on this flush list tend to be especially harmful (possibly fatal) with just one dose when used by someone other than the person

for whom they were intended. For example, Fentanyl patches should be folded in half and flushed down the toilet if on a municipal system. However, many rural areas rely on the utilization of septic systems in which it is **NOT** recommended to flush these patches. In these cases, consumers are directed to fold the patches in half so the adhesive sides stick together, then place it in a tamperproof container and bring it to the pharmacy for disposal. It’s important to note that harm, including death, from accidental exposure to certain medicines, especially potent opioid medicines, far outweighs any potential risk to humans or the environment from flushing these medications when take-back options do not exist.

ACTION ITEM: Deterra® pouches need to be readily available (and explained) at pharmacies when Montanans go to pick up their prescriptions - survey data suggests that this dissemination method would yield the highest percentage of users.

Medication Disposal Cont'd

Dispose using household items: If a medication you wish to discard is not flushable, the other option is to dispose of it using household items. In a sealable plastic bag, mix medications with an unpalatable substance as cat litter, dirt, or used coffee grounds. Throw plastic bag in household trash. Black out or scrape off any personal information on the medicine bottle, then dispose of the container.



ACTION ITEM: More education needs to be provided to Montana community members (including caregivers) surrounding safe household disposal options, including which medications can be flushed down the toilet.

Survey results illuminated that 21% of respondents either currently provide care to someone who has a prescription for opioids or have done so in the past. Of these 21%, 48% are women while 52% are men. Further educating this demographic on the importance of both safe storage and proper disposal methods is another way we could work together as a community to lessen the amount of drugs that are in circulation around Montana.

In addition to disseminating information about safe storage and safe disposal of prescription opioids, our survey data illustrates that another prevention strategy is communication. More effort needs to be placed on teaching our Montana community members how and why to engage in more purposeful conversations surrounding the prescription opioid crisis with family and friends.

¹¹ Respondents' top three sources for health-related information when they were not actively seeking for prescription opioid information are: television (both local news and broader media outlets, such as CNN or FOX, were cited), radio, and social media (Facebook was cited as the top social media source).

Education & Information Dissemination

Throughout the survey, many respondents made comments that alluded to the fact that more information about prescription opioids is needed in Montana. For example, many respondents were unsure what an opioid was, with many asking if 'alcohol' was an opioid. Other respondents were unsure of the history of the crisis, others of the addictiveness of prescription opioids, and some asked questions about what prevention-related steps they could take.

However, knowing that more education is needed is only the first step. The next step is to better understand community members' information seeking behavior so that these educational materials can be disseminated in places that are both easily accessible and useful to rural Montanans over the age of 45.

Information Seeking Behavior

In terms of seeking out this information, while 86% of Montanans surveyed have searched for information about general health or medical topics¹¹, only 31% have actively searched for information about prescription opioids. Table 8 illustrates where these individuals are looking for specific opioid-related information:

Table 8: Respondents' top sources when actively seeking for prescription opioid information

- 1 The Internet
 - a) WebMD
 - b) Mayo Clinic
 - c) General search
 - d) Social media
- 2 Health care providers
- 3 Family & Friends

ACTION ITEM: These results illustrate that a low percentage of Montanans are actively searching for information on prescription opioids. However, strategically placing opioid-related educational information on social media, local radio and television, and directly into the hands of community members, could prove effective in reaching this population.

Communication with Family, Friends and Community Members

In addition to seeking out information from the internet, television, radio, and/or social media, discussions amongst family, friends and community members can also be a great way to spread knowledge about the prescription opioid crisis, and can potentially prevent a case of opioid misuse from escalating, or even beginning. In order to ascertain people's comfort level with having these types of discussions with community members, friends and family, we asked respondents a series of questions.

Although 78% of survey participants stated that they would be unlikely to share information about prescription opioid use with a complete stranger, 61% said they would be likely to share information with their friends, and an even higher 72% said they would be likely to share information about opioid use with their (age appropriate) children.

Not only would having conversations around the addictiveness of prescription opioids be beneficial for Montana youth, it would also most likely aid in reducing the stigma surrounding substance abuse in general. Although 28% of survey respondents reported having a family history of **substance abuse disorders**, only a fraction of those respondents had ever talked to their family members about it. The simple act of a conversation can go a long way, and would nicely compliment the proper storage and safe disposal methods as a prevention strategy.

Substance use disorders occur when the recurrent use of alcohol and/or other drugs causes clinically and functionally significant impairment such as health problems, disability, and failure to meet major responsibilities at work, school, or home.

ACTION ITEM: Data suggest that having educational materials available for parents to use to talk to their children about prescription opioids would be well received by Montanans.

Not All Individuals Are Misusing Their Prescriptions

Another theme that emerged from the survey results was that there are numerous individuals in Montana that rely on prescription opioids to manage a chronic health condition, and that in the last few years it has become more difficult for them to access their medications, even though they have never taken them in a manner other than how the prescription was intended. In other words, these individuals are not misusing opioids, but now are finding it harder to access their medications in the wake of this issue becoming a public health crisis, not only here in Montana, but across the United States.

The Other Side of the Coin

"I think there is a legitimate place for opioids in our society. I think many people, myself included, use them responsibly to control their pain to achieve some quality of life."

- 60-year-old woman from Lewistown, MT

"I am on prescription opioids, prescribed by my pain management doctor for my severe chronic pain. These medications are extremely helpful to me in reducing my pain level so I can lead an active life and participate in life.... There are a lot of chronic pain patients that feel they are getting punished for those who misuse and abuse opioids"

- 53-year-old woman from Poplar, MT

Conclusion

The purpose of this survey was to ascertain current perceptions and behaviors surrounding prescription opioid use and misuse in Montana. The results of the survey may be used to identify the scope of the opioid misuse issue in Montana, where individuals are obtaining their prescription opioids, how and why individuals are keeping their unused medications in their home, community members' knowledge and willingness to participate in prevention strategies, and where they typically go for opioid-related information.

Please be aware that there are other alternative pain relief methods. Please visit the CDC web site at bit.ly/2Yi9hq4.

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Appendix A: History of the Prescription Opioid Crisis

Early 1800s: In 1804 a German pharmacist, Friedrich Serturner, isolated and extracted the alkaloid from the poppy plant that is responsible for not only the pain relief, but also the euphoric high experience. Serturner named the alkaloid *morphine* after the Greek god of dreams, *Morpheus* (Krishnamurti & Rao, 2016). With increased study, Serturner became nervous about how it might be used and warned that care must be taken when dealing with this drug.

1861-1865: Wounded and injured soldiers were administered large amounts of morphine to treat their pain. Morphine addiction in the late 19th century was termed the “army disease” and/or the “soldier’s disease” (Courtwright, 2019). This terminology, however, was very misleading as evidence actually suggests that the majority of morphine addicts were women who were prescribed large amounts of morphine during this time. Not only did women tend to be diagnosed with pain more than men, but men were thought of as weak if they needed medications for pain (Courtwright, 2019).

1884: Although many doctors were issuing warnings about morphine, many were still prescribing large amounts of it. Though at this time, there were no good alternatives for pain – aspirin was not even marketed until 1899.

Early 1900s: Tens of thousands of Americans were addicted to morphine (Courtwright, 2019).

1914: The Harrison Narcotic Control Act was passed in response to the sudden emergence of street heroin abuse as well as iatrogenic morphine dependence, which influenced physicians and patients to avoid opiates. The avoidance of opiates continued through the 1950s; during this time, even cancer patients were encouraged to wean themselves off opioids until they were at the end stages of their disease and near death (Jones et al, 2018).

This viewpoint continued into the latter half of the 20th century and the resultant under-treatment of pain was beginning to gain attention and was seen by many as a failure to treat patients in severe pain. This idea of pain under-treatment was gaining traction, and, by the 1990s, some in the medical community were wondering why opioids were reserved solely for cancer pain and entirely avoided for those in chronic pain states (Jones et al, 2018).

1995: The American Pain Society initiated their “pain as the fifth vital sign” campaign that urged for more aggressive use of opioids for chronic, non-cancer pain. This same year, OxyContin (an extended release formulation oxycodone), was introduced on the market by Purdue Pharma. Purdue Pharma funded over 20,000 pain-related educational programs to encourage long-term use of opioid pain relievers for non-cancer pain and provided financial support to the American Academy of Pain Medicine, the Federation of State Medical Boards, the American Pain Society, and pain patient groups and other organizations (Kolodny et al, 2015). These organizations ultimately advocated for more aggressive treatment of pain using opioid pain relievers.

1991-2009: The number of prescriptions written for opioids increased by 300% in the U.S. (Lyapustina & Alexander, 2015).

1999: The Veteran’s Health Administration supports the American Pain Society campaign with the adoption of the “pain as the fifth vital sign” initiative (Jones et al, 2018).

2000: The Federation of State Medical Boards and the Drug Enforcement Agency issued statements vowing less regulatory inspection over opioid prescribers, thus decreasing physician reluctance to prescribe more generous amounts of opioid analgesics (Jones et al, 2018).

1997-2002: OxyContin prescriptions increased from 670,000 to 6.2 million in the U.S. (Jones et al, 2018).

Appendix A: History of the Prescription Opioid Crisis Cont'd

2000s: Opioid consumption continues to rise in the U.S. (Jones et al, 2018).

2007: Purdue Pharma pleaded guilty to federal charges related to misbranding of OxyContin, and misleading both physicians and the healthcare industry by overstating the benefits of opioids for chronic pain (Jones et al, 2018).

2009: The U.S. consumes 99% of the world's hydrocodone, 60% of the world's hydromorphone, and 81% of the world's oxycodone (Lyapustina & Alexander, 2015).

2013: Rapid increase in the number of overdose deaths related to synthetic opioids (i.e. fentanyl). The increase in fentanyl deaths has been linked to illicitly manufactured fentanyl used to replace or adulterate other drugs (Ciccarone, 2017, as cited in Liu, L., Pei, D., & Soto, P., 2019).

2016: The sharpest rise in drug-related deaths occurred, with over 20,000 deaths being due to fentanyl and related drugs (Ciccarone, 2017, as cited in Liu, L., Pei, D., & Soto, P., 2019).

2019: The Montana State Legislature introduced House Bill 86 on December 18th, 2019. The Senate passed the bill on March 12th, 2019. House Bill 86:

- Protects the legitimate use of prescription painkillers under the close supervision of a physician.
- Restricts “opioid-naive” patients to a seven-day supply of an opioid medication (an opioid-naive patient is one who has not been prescribed a drug containing an opioid in the last 90 days). However, there are certain exceptions. Section 7 of House Bill 86 states that the seven-day prescription restriction goes into effect Oct 1, 2019 and terminates June 30, 2025.
- Requires physicians to check a patient’s history in Montana’s prescription drug registry before issuing an opioid or benzodiazepine prescription. However, there are certain exceptions.
- Requires pharmacies to positively verify the identity of a recipient before filling an opioid prescription. Section 3 of Montana House Bill 86 states that the drug registry requirement goes into effect July 1, 2021.

Appendix B: Underreporting of Opioid Misuse

According to a peer reviewed study published by the University of Pittsburgh Graduate School of Public Health, approximately 70,000 opioid-related overdose deaths were not included in national opioid-related mortality estimates since 1999 because coroners and medical examiners did not specify the drug that contributed to the cause of death when completing the death certificates.

State epidemiologists can only report an opioid overdose death for instances where an opioid was listed as a cause of death. These deaths do not include cases where the cause of death was listed as “mixed drug toxicity,” which is relatively common and may have involved an opioid. Additionally, both prescribed and illicit opioids are included in the overdose deaths reported statistic.

There are many variations in methods, resources, state laws and processes that medical examiners and coroners are required to follow in order to administer death records in each state. As a result, there is a varying degree of accuracy from state to state and nationally. In the State of Montana, coroners are not required to be physicians or forensic pathologists and may not have sufficient training in providing drug information needed to complete death certificates based upon toxicology reports (CDC, 2015). In 2017, only 5.6% of all deaths in Montana received autopsies (DOJ, 2018).

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