REDUCING OPIOID-RELATED MORTALITY IN WYOMING

Today, the opioid crisis is at the forefront of public health concerns in the United States and across the world (National Institute of Health, 2019). Opioids are a class of drug that bind to opioid receptors and produce analgesia and euphoria. Commonly prescribed for pain relief, opioids are highly addictive and at certain doses, can cause respiratory depression and cardiac arrest. Deaths related to opioid overdoses are devastating but preventable, part of the opioid crisis.

According to the Centers for Disease Control and Prevention, deaths attributed to drug overdoses were the leading cause of injury-related mortality for the United States in 2017 (CDC, 2019). The majority of those deaths involved the use of illicit opioids1 but misuse or overdose from prescription medication is also significant (CDC, 2019). State agencies and local communities play a vital role in implementing preventative strategies for opioid-related deaths.

However...strategies aimed at reducing opioid-related mortality are predominantly being implemented in suburban and urban areas despite the reality that opioid-related deaths also significantly impact rural populations (Rigg, 2018). Wyoming is one rural state that has felt significant effects from opioid overdoses.

The aim of this Honors Thesis is to examine the current intervention strategies and develop a guide for future outreach along the three pillars of critical access; emergency services, healthcare providers, and public access in Wyoming. The entire research project includes a Zoology/Physiology capstone project that focused on reducing opioid-related mortality in rural areas of the United States and the development and implementation of a small-scale training program for first responders.

The methods included drawing on over 36 months of employment as a state-licensed paramedic working in Wyoming which offered a valuable perspective for implementing practical and lifesaving interventions. Additional methods included content analysis of state legislation, analyzing statistical data at both state and national levels, and speaking with members from the Wyoming Department of Health

This document serves as the final deliverable for the Honors Thesis that explores and suggests improvements to the interventions that the state of Wyoming has implemented to combat deaths related to opioids. What follows are descriptions and potential suggestions for improving the effectiveness of these interventions as they relate to each of the three pillars of critical access.

1 Illicit opioids refer to the clandestine use of opioid drugs outside of prescription parameters, or to the use of street narcotics.
RECOMMENDATIONS FOR REDUCING OPIOID-RELATED MORTALITY IN WYOMING

A recent study from the Wyoming Survey & Analysis Center shows opioid death rates for Wyoming compared to the national data, both of which have increased from 2005-2017 (Wambeam, 2018). While the data shows that trends have stabilized in Wyoming from 2013-2017, the death rates are still significant for the least populated state in the union. See: https://wysac.uwyo.edu/wysac/reports/View/6665

The stabilizing trends seen in Wyoming over the past several years are partly attributed to treatment programs and changes in legislation that include approving Narcan (naloxone)³ use for first-responders, changing the approach to opioid and naloxone prescriptions for healthcare providers, and legislation regarding the use and distribution of naloxone for public access. Many of these interventions and changes pertain to the use of naloxone and its availability and use for the three different pillars of critical access; emergency services, healthcare providers, and public access.

1. EMERGENCY SERVICES:

   a. What have Emergency Services done to reduce opioid-related mortality in Wyoming?

Most transporting Emergency Medical Service (EMS) agencies in the state currently carry naloxone. The “Wyoming State EMS Scope of Practice Chapter 17”, states that naloxone could only be administered by advanced level EMS providers. However, according to information from the Wyoming Department of Health (WDH) office of EMS, in 2017, the state implemented changes that aligned with the National EMS Scope of Practice Model. Now, under the direction of a licensed medical director, EMT-Basic, and above level providers can administer naloxone in specific circumstances where opioid overdose is suspected in Wyoming. See: https://health.wyo.gov/wp-content/uploads/2019/04/Chapter-17.pdf for original Scope of Practice

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² Rates based on the ICD 10 diagnostic codes: X40–X44, X60–X64, X85, and Y10–Y14, and narrowed to the following T-Codes: T40.0, T40.1, T40.2, T40.3, T40.4. Data Source: CDC WONDER 2005-2017

³ Naloxone is an opioid reversal agent that competitively binds to opioid receptors, displacing and reversing the effects of the drug. It can be given non-invasively via the nasal mucosa.
A recent study from the Wyoming Survey & Analysis Center showed that EMS administered naloxone 737 times between January 2016 and June 2017. The study also found that, when the primary impression was listed as being opioid-related, naloxone was administered less than 25% of the time.
See: https://wysac.uwyo.edu/wysac/reports/View/6665

**NOTE:** Not every opioid-related primary impression will require the use of naloxone and, therefore, is not the best indicator of appropriate use.

### b. What else can Emergency Services do?

Carrying naloxone and having the ability to administer it does not necessarily mean that it is being utilized appropriately, or to its full potential. Providing adequate training to first responders is paramount for the recognition and treatment of opioid overdoses and to eliminate inconsistencies for different counties within the state.

A knowledge-based training was implemented by me at the service where I work in Platte County WY. A review of opioid and naloxone mechanisms of action, hands-on skills, and tabletop scenarios where the methods used for this training. I spent a total of 5 hours initially (1 hour with each shift) training and testing on overdose recognition/response and naloxone administration. Follow-up training and informal inquiries in the months since have shown that much of the knowledge has been retained by the staff and confidence in how and when to use naloxone is high for the department.

If a similar knowledge-based training could be implemented for first responders across the state, the appropriate use of naloxone and other overdose response measures should increase and therefore, reduce the incidence of opioid-related mortality in Wyoming.

**NOTE:** A recent study on naloxone use for rural EMS was conducted in Nevada. Quantitative data was collected to measure the effectiveness of a program aimed at providing training for rural EMS providers on overdose response and naloxone administration. The results found that with only 1 hour of training, the participants “demonstrated statistically significant improvement” in knowledge of overdoses and appropriate response (Zhang, 2018).
2. HEALTHCARE PROVIDERS:

a. How have Healthcare providers worked to reduce opioid-related mortality in Wyoming?

Recognition of the contributing role that healthcare providers had on creating and perpetuating the opioid crisis has led to practitioners reducing the number and quantity of opioid prescriptions. Providers have reduced retail opioid prescriptions in recent years both in Wyoming and nationally. Despite the decrease in retail opioid prescriptions since 2014 on both fronts, Wyoming’s prescribing rate is still slightly above the national prescribing rate average. See: https://wysac.uwyo.edu/wysac/reports/View/6665

The state of Wyoming requires a prescription for naloxone. Many healthcare providers are working to prevent opioid-related mortality by prescribing naloxone along with opioids to prevent serious complications related to overdoses. Pharmacist are also allowed to prescribe naloxone in Wyoming (see more on pharmacist distribution of naloxone under public access pillar below).

b. How can Healthcare providers improve?

Opioids are necessary tools for healthcare providers to use under their professional discretion. However, considering alternative treatment options when appropriate and thereby reducing the amount of prescribed opioids in Wyoming should reduce the cases of overdose-related deaths.

Additionally, physician conferences should offer more continuing education resources to combat the opioid crisis. These resources can advocate for better opioid prescribing methods and provide more training on overdose response and prevention at the provider level.

NOTE: Reducing the number of prescribed opioids would not decrease opioid-related mortality from overdoses on street drugs like heroin.

3. PUBLIC ACCESS:

a. What public access implementations have been established to reduce opioid-related mortality in Wyoming?

Naloxone is a relatively safe medication with minimal side effects if given appropriately. A prescription is still required to receive naloxone in Wyoming. However, during the 2017 session, under Wyoming law 35-4-901 through 35-5-906, legislation was put in place to allow pharmacists to prescribe naloxone. This makes public access to naloxone
much more of a streamlined process while still allowing for the close regulation of its distribution.
See: https://wyoleg.gov/Legislation/2017/SF0042

The WDH states that one benefit to naloxone not being over the counter is that the drug is reported to the Board of Pharmacy Prescription Drug Monitoring Program which provides a count of how many people are buying it, where it is bought, and what doctors are prescribing it with opioid prescriptions.

b. What additional Public Access measures should be established?

The Food and Drug Administration is working to make naloxone available “Over-The-Counter” (OTC). Many states have already legalized the sale of naloxone without a prescription.

It is my recommendation that Wyoming should make naloxone OTC. This would increase public access for high-risk populations to obtain naloxone. In a rural state like Wyoming, where access to healthcare facilities or EMS can be significantly delayed, equipping individuals with a first-line treatment for overdoses would likely decrease the number of opioid-related deaths.

Conclusions

Opioid overdoses in Wyoming paint a complicated picture. The unfortunate reality is that the quality of critical access in Wyoming varies widely depending on the location within the state. Following the recommendations outlined in this research project will reduce the disparities of critical access across the state and improve Wyoming’s overall interventions aimed at reducing opioid-related mortality.
REFERENCES


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