

# 'It's the Same Thing as Giving Them CPR Training': Rural Emergency Responders Perspectives on Naloxone

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## Research Article

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# Abstract

Most states in the US have implemented Good Samaritan Laws (GSLs) that provide legal protections for anyone calling law enforcement and first responders trained to administer naloxone and reverse overdoses. Despite these laws, some bystanders are reluctant to call the authorities, prompting requests to increase naloxone access and administration training among lay persons. This study examines the perceptions of emergency first responders in a frontier and remote (FAR) state to understand their job responsibilities and perceptions of layperson naloxone administration training. This study includes 22 interviews with law enforcement, EMS and/or fire personnel, members of community organizations responsible for responding to opioid overdoses. The study finds widespread support for layperson naloxone training and administration throughout Montana due to rural first responders' inability to meet the needs of residents and an overall lack of resources to address substance use. This study adds to the literature because of it focuses on first responders in a frontier and remote area (FAR) that would benefit from layperson naloxone education and administration training due to its geographic expansiveness and the area's overall lack of resources. A harm reduction approach that trains laypeople to administer naloxone might be FAR residents' best chance for survival after an opioid overdose.

## Introduction

In 2017, nearly 50,000 Americans died from an opioid overdose (OD) (National Institute on Drug Abuse, 2020), prompting the U.S. Department of Health and Human Services to declare the opioid epidemic a national public health emergency (Johnson & Wagner, 2017). The problem has remained severe, as the likelihood of dying from an accidental opioid overdose was higher than the possibility of dying in a car accident in 2019 (National Safety Council, 2019). By 2017, every state passed legislation increasing access to naloxone, an opioid antagonist effective in reversing the effects of an overdose and reducing the rates of fatal OD including death, to curtail the risk of overdose (Maxwell et al., 2006; NCSL, 2017; Parker et al., 2018; Seal et al., 2005; Walley et al., 2013).

The expansion of naloxone (common brand name Narcan) across law enforcement agencies and first responder organizations has significantly contributed to increased use and access to naloxone (Lurigio et al., 2018). In 2013, the U.S. National Drug Control Policy center urged all law enforcement agencies to carry naloxone due to the likelihood of them responding to overdose calls before paramedics arrive (Botticelli, 2013). This action prompted a series of studies on law enforcement officers' (LEOs) views of overdose and naloxone administration. Some studies describe police officer stigma of victims as the most common barrier facing the implementation of naloxone programs intended to help overdose victims (Formica et al. 2018; Gnann 2019). The frequency with which officers and first responders answer calls may result in burnout, helplessness, and compassion fatigue (Saunders et al. (2019), and influence their support or opposition to naloxone expansion and administration. Carroll et al. (2020) found that compared to officers who had *not* responded to any OD calls, those who responded to OD calls weekly and even monthly, were significantly less likely to endorse OD response efforts, while officers in Green et al.'s (2013) study described responders' decreasing empathy for drug users. Haug et al. (2016) found and

argued that these negative sentiments were less common among police officers than previous research demonstrates.

Despite the push to equip first responders with naloxone to address overdose deaths, laypeople and active drug users report a reluctance to call 911 due to stigma and legal repercussions (Pollini et al. 2006; Watson et al. 2018; Davis et al. 2013; Lankenau et al. 2013; Straus et al. 2013). To counter this reluctance, states enacting Good Samaritan Laws (GSLs) that provide overdose victims and witnesses immunity from prosecution for the possession of controlled substances and/or drug paraphernalia when they report an overdose in good faith (Davis & Chang, 2016; Koester et al. 2017). GSLs increased engagement among first responders and reduced the rates of fatal OD (Carroll et al., 2018a; McClellan et al., 2018; Nguyen and Parker, 2018; Rando et al., 2015). However, despite the intentions of GSLs and positive effects of these laws, laypeople and drug users remain hesitate to call 911, fearing repercussions from police response (Bohnert et al., 2011; Davidson et al., 2002; Tobin et al., 2005). This continued reluctance to call first responders has prompted calls for laypeople and people who use illicit drugs to receive naloxone to reduce administration time and increase administration (Neale et al. 2019).

People who use illicit opioids can be trained to properly administer naloxone for opioid overdoses; thus, opioid education and naloxone distribution programs that provide take-home naloxone rescue kits (NRKs) can reduce opioid overdose death rates (Coffin and Sullivan 2013; Neale et al. 2019; Walley et al. 2013). The stigma ascribed to opioid users may deter those who need naloxone from taking it home (Bazazi et al. 2010). As Albert (2011) demonstrates, most drug users fall into a grey area between low and high-dose opioid users, and Bailey and Wermeling (2014) find that people prescribed high doses of opioids are more receptive to naloxone education than illicit opioid abusers. Other factors motivate lay people to support take-home NRKs, such as knowing someone who experienced a fatal or non-fatal overdose (Watson et al. 2018) and being politically liberal (Calabrese and Bell 2019).

This study draws on Bessen et al.'s (2019) conclusion that multiple points of naloxone access in communities (especially rural communities) and among first-responders may be the most effective set of strategies for decreasing fatal overdoses. The present study examines emergency first responders' perceptions of take-home NRKs for laypeople in rural Montana. This study adds to the literature because of its focus on rural, Frontier and Remote Areas (FAR), and its examination of naloxone expansion in FAR areas which lack substance abuse treatment and mental health care more than other areas (Andrilla et al. 2019; Green et al. 2021; Rosenblatt et al 2015). This study is the first that we know of to examine the unique challenges facing emergency first responders in rural America during the opioid epidemic, and first responders' perspectives on the need for naloxone training and administration among laypersons.

## Methods

### Recruitment/ Data Collection/Sampling

The sample for this study was drawn from all 56 counties in Montana. The present study was part of a larger project supporting Montana's Behavioral Health and Developmental Disabilities Division which oversees naloxone distribution via the State Opioid Response (SOR) grant program from the Substance Abuse and Mental Health Services Administration (SAMHSA). Priority was given to counties that had received naloxone via a standing order with the state, and that had a population above 1,000 people—40 out of 56 counties in Montana were included in the final analysis.

A primary contact list was created by the project team, with contact information being gathered from a list of individuals including: (1) those trained as a naloxone master trainers, (2) law enforcement agencies, and (3) EMS service providers. Contact was made via email or over the telephone. Study participant recruitment was challenging, both due to the limitations on recruitment brought about by COVID-19 (mainly, inability to do in person recruitment) and the nature of rural, volunteer EMS and fire department staffing. In many cases any tele-recruitment efforts were not guaranteed to reach the respective departments. Without access to the phone numbers of volunteers, we were unable to contact individuals within many of the intended counties.

The final study sample included 22 interview participants. Eleven of the interviews were with members of law enforcement, eight were with EMS and/or fire personnel, and three were with community organizations. The interviews for this study were audio recorded, transcribed verbatim and coded by two members of the research team (Creswell 2007). To ensure coding reliability two coders resolved discrepancies through a "negative case analysis," whereby researchers refined the working hypothesis in the context of negative and disconfirming evidence to ensure all patterns fit the study's conclusion (Ely et al. 1991; Miles and Huberman 1994).

This study was part of a broader evaluation of STR and SOR funding in Montana. Montana's Department of Public Health and Human Services identified emergency first responders as key informants, and naloxone training and administration as a special topical area for research. The larger study sought to understand emergency first responders' perceptions of substance abuse treatment and harm reduction measures, such as naloxone, within Montana. The study was submitted to Western IRB for approval and received an exempt status (Approval #: 13093595). All interviews were completed with each participant's consent, performed confidentially, and all information for this study is reported anonymously.

## Analysis

Initial coding allowed us to "remain open to all possible theoretical directions indicated by [. . .] the data" (Charmaz 2006: 46). Through initial coding the coders identified "Challenges" as a prominent pattern facing emergency first responders who administer naloxone in Montana. Then, during a second stage of focused coding, coders established the categories "Distance" and "Lack of Resources" which helped to clarify the challenges facing emergency first responders. From here we further coded Distance and noticed the sub-category (1.) "lack of emergency first responders." We also coded Lack of Resources for the sub-categories (i.) "lack of emergency first responders" and (ii.) "lack of treatment options." Through

focused coding we were able to understand how these categories systematically interrelated as challenges for first responders and resulted in support for training laypeople to administer naloxone (Corbin and Strauss 2008: 55)

- I. Challenges
    - i. Distance
      - 1. Lack of emergency first responders
  - II. Lack of Resources
    - i. Lack of emergency first responders
    - ii. Lack of treatment options
- 
- = Support Lay Training

## Results

### Distance

The distance first responders must travel to service calls and to administer naloxone emerged as the most consistent theme among interview participants in Montana’s rural and populated counties. For example, one rural EMS provider states: “Distance. Yeah. We are such a rural county; we have one ambulance station, and we cover about 2000 square miles. So, time and distance to be able to get to a patient is sometimes very difficult.” This theme was present among all types of first responders; for example, a county deputy recounts: “Law enforcement, our agency, we are very far from a lot of our calls. It’s not uncommon for us to have a 30-minute, 40-minute runtime to our location. We are, by far, the quickest and fastest unit, but we’re spread out.” Distance in a frontier and remote setting presents other challenges for first responders, such as which calls to prioritize:

I would say probably for us, obviously distance. We are the sole ambulance for the county and it’s like 12,000 people and almost 4,000 square miles. Depending on the road, if you get off the pavement even on nice high grade county roads, it might take us two or three hours to reach the edge of our county, depending on how you’re getting there. [ . . . ] Often the helicopter coming out of Billings can beat us. [ . . . ] I would say for overdoses, it’s the access to law enforcement. We don’t have that much law enforcement and we don’t have enough staff and they’re so busy and often understaffed that they’re not truly able to go to every call like that before us and clear all of those.

This participant describes a vast service area that an emergency helicopter out of Billings can cover quicker than ‘local’ first responders. In addition, first responders rank the most urgent calls, only responding to a select few due to distance and travel time for service.

First responders in Montana’s most densely populated areas were not exempt from difficult routes and long travel times for service. For instance, one urban EMS provider recounts: “And just because of the

highways and the distances in Montana, we respond to some really faraway places that are probably... We call them 'dead zones' where there's just not a lot of responders available." Based on our interviews with first responders, much of Montana could be classified as a 'dead zone': a geographically isolated area with a persistent lack of services. Further complicating their job, Montana's emergency responders are assigned large coverage areas that strain their modest crews. One rural EMS participant states: "On our normal shifts we have a four-man crew, but sometimes faced with vacation and comp and that kind of stuff. We may have a three-man crew and running a three-man crew on an unresponsive [overdose] patient ... you need more people." Emergency responders in Montana report covering large swaths of the state, often understaffed to deal with the challenges they face.

## Lack of Resources

The large service coverage areas that first responders patrol interrelates with the overall lack of available resources across Montana's vast landscape. For instance, Montana lacks treatment and recovery programs in rural areas which forces residents to travel long distances for services. One rural county's EMS director stated: "Access to substance abuse treatment and mental health...I mean, we don't have resources here. The only behavioral health unit close by is often full." Montana's frontier and remote counties lack vital services and rely on those offered in Montana's, often distant, more densely populated areas. Figure 2 displays the number of MOUD providers by county in Montana, noting that 42 of Montana's 56 counties have 2 or fewer waived providers for prescribing Buprenorphine.

A law enforcement officer in one rural county notes:

I don't know if you could ever have enough [treatment] resources. But being a small community where there's not a ton of resources, I know the clinic has kind of a MOUD program. We do have drug court here through district court that the sheriff sits on. So we try to do things, but like AA has fallen off a lot. You don't see the AA meetings or the NA meetings as much. I think we went from three or four meetings every week to having trouble finding one meeting in our area every week. So stuff like that's fallen off. I think just when you're in a smaller community, there's just not ever going to be enough resources to get people in to, and they're going to have to travel to bigger areas. Like for us, it would be Great Falls or Kalispell where there's going to be more resources available.

Participants in rural counties rely on urban centers that have more available resources, but those resources are often unable to handle the demand within and across counties. A law enforcement officer in an urban county states:

You could interview officers daily who, somebody is on drugs and they want to get treatment right now. And we all know that if you have an addict who needs treatment or wants it, right now, when they're willing is the best thing in the world. And our guys will call up there and they're like, "Yeah, we don't have any beds." And so, we got nowhere to take them.

A firefighter working in an urban and wealthy county states:

We have a lack of social services in [Name] County. To include what you're asking, also mental health, those prevention programs and things like that, I don't think we're a big enough community yet to have all the resources that we need, and that's going to continue to be a bigger and bigger problem as the county grows as fast as it is, and we see it all the time in different scenarios, not just drug abuse, but mental health is another one. Our geriatric patients or our older patients, we just lack social services, and our homeless community, there aren't a lot of resources, and we don't even have a homeless shelter that's open year-round. We don't have a homeless shelter that's open 24 hours a day. I mean, we're just not there yet. There's a lot of services that we need that we just don't have yet. So, I guess just as a citizen, I would say no. There's probably not enough resources for drug abusers.

Montana's emergency responders, regardless of their service area's population density, describe a lack of mental health and treatment resources. The dearth of services contributes to first responders' support for training laypersons in naloxone administration.

## Community Training

This study's interviewer asked emergency responders whether they supported or opposed training community members in naloxone administration. Only one of the twenty-two participants outright objected to training and providing naloxone to community members, while some supported training certain community members, and others supported training every willing resident. A rural law enforcement officer states: "I think it would have to be selective. Some providers, that would benefit from the Narcan training [would be] mental health people that we have here in town because that's, like I said before, it kind of coincides with some mental health issues." An EMS director in another rural county agreed: "When we have a person that we've identified as being at risk of overdose, having some key people that are frequently around that patient or person, I think [the targeted training] would be the best use of resources." Some respondents felt training individuals closest to those at risk of overdosing was the most efficient way to ensure naloxone was within reach of an overdose victim; however, other participants questioned this tactic, especially in rural areas where community members would be unwilling to identify as drug users or individuals with high-risk contacts. One rural law enforcement officer captures this sentiment: "I just don't think that there would be a big turnout for the people that would be the most at risk because they wouldn't want to put themselves out there." This participant alludes to the stigma associated with identifying oneself as high-risk in rural communities in Montana, suggesting that the targeted approach recommended by previous participants might not work in some areas.

To circumvent the challenges with training select community members, respondents viewed the pandemic, and the distances emergency first responders need to cover as a justification for training laypersons who lack a direct connection to drug abusers. A member of the Montana Department of Justice states:

[Narcan] should just be available to all walks of life because... Not only to people that can afford it since... But all the way down to people that are struggling, that they could have an opportunity to be administered or given Narcan so that they could use it because they have family members and loved ones that could be and are addicted to opioids. And it could be lifesaving for them at some point as well.

The previous respondent describes that training laypeople in a rural state like Montana, where first responders are faced with vast coverage areas and lengthy response times, can save lives. Other first responders who support training community members equate naloxone administration training to other forms of first aid trainings, such as CPR and AED training. For example, one rural law enforcement officer states: "It never hurts. It's the same thing as giving them CPR training, AED training. You hope they never have to use it, but if they did, at least they'd be confident in using it." An urban firefighter echoed the previous participant: "I teach CPR classes [to the] general public. My opinion on the matter is yes, and whether it's stop-the-bleed classes, or CPR, or Naloxone, or anything like that. I think there's always a benefit there." The distances emergency first responders cover in Montana and the lack of resources within communities affects participants' attitudes toward the potential for training and administering naloxone among laypersons. Some may argue that the need for basic first aid training and naloxone administration in rural areas far exceeds the need in more densely populated areas with access to resources; however, participants in this study regard all of Montana as underserved and layperson training would benefit residents throughout the state.

## Discussion

This study is the first that we know of to examine the unique challenges facing emergency first responders in rural America during the opioid epidemic, and the first to capture responders' perspectives on the need for naloxone training and administration among laypersons in a FAR state. This study illuminates the need to train laypersons to administer naloxone in FAR states because opioid education and naloxone distribution programs that provide take-home naloxone rescue kits (NRKs) reduce opioid overdose death rates (Coffin et al. 2013; Walley et al. 2013). Emergency responders in this study describe the vast distances they serve, and express frustration at the lack of addiction treatment resources in rural Montana. Participants echo national data from 2018 which showed that too few (only 42%) substance use treatment facilities offered medications for OUD (U.S. Substance Abuse and Mental Health Services Administration, 2019), and many of these treatment centers are concentrated in urban areas, which results in long wait times for admission and leaves rural patients underserved and at risk (Andrilla et al. 2019; Green et al. 2021; Oser et al. 2011; Rosenblatt et al. 2015). Emergency responders in this study express frustration with the lack of drug treatment options and lengthy waitlists that block access to treatment medications in Montana (also see Carroll et al., 2018b; Fox et al., 2015; Parran et al., 2017), whereas previous research documents that law enforcement officers express feelings of futility and frustration with their current overdose response options (Green et al. 2013). Other studies report police stigma as the most common barrier to connect OD survivors with treatment programs (Formica et al. 2018); however, in Montana, the lack of treatment programs themselves constrained responders' ability to connect drug users to recovery. Emergency responders expressed support for training laypersons in



naloxone administration but also viewed this course of action as futile due to a lack of treatment programs that can change an addict's behavior. The geographic barriers and excessive demands placed on an already strained provider network prevent the expansion of opioid treatment in rural areas (Green et al. 2021), and first responders respond to the population effects and insufficient treatment capacity in their own line of work (Carroll et al. 2020). The present study elucidated a belief that naloxone does not address underlying issues of addiction (see Bessen et al. 2019) and underscores the state's inability to address the problem due to the lack of resources in Montana. A harm reduction approach that trains laypeople to administer naloxone might be FAR residents' best chance for survival.

## Conclusion

FAR areas would benefit from more expansive naloxone distribution and training due to their lack of resources and reliance on the resources located in their states' more densely populated and wealthy areas. Multiple points of naloxone access—through layperson and first-responder networks—would benefit FAR residents (Bessen et al. 2019); however, future research must explore ways to expand naloxone education and administration among opioid users hesitant to take naloxone home due to stigma (Bailey and Wermeling 2014; Bazazi et al. 2010). Ensuring anonymity among laypeople and former opioid users may increase their willingness to receive naloxone training, but practitioners must reconcile this with residents' need to know who possesses naloxone during an emergency. Future research should also address one of this study's limitations: first responders in FAR areas might be too preoccupied with the overall lack of resources to consider naloxone administration as an effective tool for harm reduction. Therefore, future research on naloxone should continue to examine FAR areas and the resources available to first responders and residents.

## Declarations

The authors report no conflict of interest.

**Availability of Data and Materials:** The datasets generated and analyzed during the current study are not publicly available due ownership by JG Research and Montana's Department of Public Health and Human Services but are available from the corresponding author upon reasonable request.

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## References

1. Andrilla CHA, Moore TE, Patterson DG, Larson EH. Geographic Distribution of Providers With a DEA Waiver to Prescribe Buprenorphine for the Treatment of Opioid Use Disorder: A 5-Year Update. *J Rural Health*. 2019;35(1):108-112.
2. Bailey, A. M., & Wermeling, D. P. (2014). Naloxone for opioid overdose prevention: Pharmacists' role in community-based practice settings. *The Annals of Pharmacotherapy*, 48(5), 601Y606. doi:10.1177/1060028014523730
3. Bazazi, A. R., Zaller, N. D., Fu, J. J., & Rich, J. D. (2010). Preventing opiate overdose deaths: Examining objections to take-home naloxone. *Journal of Health Care for the Poor and Underserved*, 21(4), 1108Y1113. doi:10.1353/hpu.2010.0935
4. Beletsky, L., Agrawal, A., Moreau, B., Kumar, P., Weiss-Laxer, N., Heimer, R., 2011. Police training to align law enforcement and HIV prevention: preliminary evidence from the field. *Am. J. Public Health* 101, 2012–2015.
5. Bessen, S., Metcalf, S. A., Saunders, E. C., Moore, S. K., Meier, A., McLeman, B., & Marsch, L. A. (2019). Barriers to naloxone use and acceptance among opioid users, first responders, and emergency department providers in New Hampshire, USA. *International Journal of Drug Policy*, 74, 144-151.
6. Bohnert, A.S., Nandi, A., Tracy, M., Cerda, M., Tardiff, K.J., Vlahov, D., Galea, S., 2011. Policing and risk of overdose mortality in urban neighborhoods. *Drug Alcohol Depend.* 113, 62–68.
7. Botticelli, M. (2013 August 28). Announcing the opioid overdose toolkit. In *The White House of Barack Obama*. Retrieved 20 April 2020 from <https://obamawhitehouse.archives.gov/blog/2013/08/28/announcing-opioid-overdose-toolkit>.
8. Burris, S., Beletsky, L., Castagna, C.A., Coyle, C., Crowe, C., McLaughlin, J.M., 2009. Stopping an invisible epidemic: legal issues in the provision of naloxone to prevent opioid overdose. *Drexel Law Rev.* 1, 273–340.
9. Calabrese, C., & Bell, R. A. (2019). Opposition to nonprescription naloxone access: Measurement and psychosocial predictors. *Substance Use & Misuse*, 54(11), 1853-1861.
10. Carroll, J. J., Green, T. C., & Noonan, R. K. (2018). Evidence-based strategies for preventing opioid overdose: What's working in the United States. *National Center for Injury Prevention and Control, Centers for Disease Control and Prevention*.
11. Carroll, J.J., Rich, J.D., Green, T.C., 2018b. The more things change: Buprenorphine/ naloxone diversion continues while treatment remains inaccessible. *J. Addict. Med.* 12, 459–465. <https://doi.org/10.1097/ADM.0000000000000436>.
12. Carroll, J. J., Mital, S., Wolff, J., Noonan, R. K., Martinez, P., Podolsky, M. C., & Green, T. C. (2020). Knowledge, preparedness, and compassion fatigue among law enforcement officers who respond to opioid overdose. *Drug and alcohol dependence*, 217, 108257. Chicago
13. Charmaz, K. 2006 *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. Sage.
14. Coffin PO, Sullivan SD. Cost-effectiveness of distributing naloxone to heroin users for lay overdose reversal. *Ann Intern Med*. 2013;158(1):1–9.

15. Corbin, J. and Strauss, A. 2008. *Basics of Qualitative Research: Techniques and procedures for developing grounded theory*. (3<sup>rd</sup> ed.) Thousand Oaks, CA: Sage.
16. Creswell, J. *Qualitative Inquiry and Research Design: Choosing among Five Approaches*. 2nd ed. Sage; 2007.
17. Cruz, M. F., Patra, J., Fischer, B., Rehm, J., & Kalousek, K. (2007). Public opinion towards supervised injection facilities and heroin-assisted treatment in Ontario, Canada. *International Journal of Drug Policy*, 18(1), 54–61. doi: 10.1016/j.drugpo.2006.12.001
18. Davidson, P.J., Ochoa, K.C., Hahn, J.A., Evans, J.L., Moss, A.R., 2002. Witnessing heroin-related overdoses: the experiences of young injectors in San Francisco. *Addiction* 97, 1511–1516.
19. Davis, C., & Chang, S. (2016). Legal interventions to reduce overdose mortality: Naloxone access and overdose Good Samaritan laws. *The Network for Public Health Law*.  
<https://www.networkforphl.org/asset/qz5pvn/networknaloxone-10-4.pdf>.
20. Davis, C. S., Ruiz, S., Glynn, P., Picariello, G., & Walley, A. Y. (2014). Expanded access to naloxone among firefighters, police officers, and emergency medical technicians in Massachusetts. *American journal of public health*, 104(8), e7-e9.
21. Davis, C., Webb, D., & Burris, S. (2013). Changing law from barrier to facilitator of opioid overdose prevention. *The Journal of Law, Medicine & Ethics*, 41(Suppl. 1), 33Y36. doi:10.1111/jlme.12035
22. Ely, M., Anzul, M., Friedman, T., Garner, D., and Steinmetz, A.C., 1991. *Doing qualitative research: Circles within Circles*. New York: Falmer Press.
23. Firth, J., Kirzinger, A., & Brodie, M. (2016). Kaiser Health Tracking Poll: April 2016. Retrieved from <https://www.kff.org/report-section/kaiser-health-tracking-poll-april-2016-substance-abuse-and-mental-health/>
24. Formica, S., Apsler, R., Wilkins, L., Ruiz, S., Reilly, B., & Walley, A. (2018). Post opioid overdose outreach by public health and public safety agencies: Exploration of emerging programs in Massachusetts. *International Journal of Drug Policy*, 54, 43–50.
25. Fox, A.D., Chamberlain, A., Sohler, N.L., Frost, T., Cunningham, C.O., 2015. Illicit bu- prenorphine use, interest in and access to buprenorphine treatment among syringe exchange participants. *J. Subst. Abuse Treat.* 48, 112–116. <https://doi.org/10.1016/j.jsat.2014.07.015>.
26. Gnann, C. (2019). *A multiple case-study approach to examine police officers perceptions on Narcan® policies* [Unpublished doctoral dissertation]. Nova Southeastern University.
27. Green, T. C., Zaller, N., Palacios, W. R., Bowman, S. E., Ray, M., Heimer, R., & Case, P. (2013). Law enforcement attitudes toward overdose prevention and response. *Drug and Alcohol Dependence*, 133(2), 677-684.
28. Green, Brandn, Danielle Christine Rhubart, and Matthew R. Filteau. 2021. "Barriers for Implementing the Hub and Spoke Model to Expand Medication for Opioid Use Disorder: A Case Study of Montana." *Substance Abuse: Research and Treatment* 15: 11782218211039781.

29. Haug, N. A., Bielenberg, J., Linder, S. H., & Lembke, A. (2016). Assessment of provider attitudes toward naloxone on Twitter. *Substance Abuse, 37*(1), 35–41.
30. Johnson, A. M., & Wagner, P. (2017). Trump declares the opioid crisis a public health emergency. *Washington Post. Morbidity and Mortality Weekly Report*, 10–11. October 26.
31. Kirane, H., Ketteringham, M., Bereket, S., Dima, R., Basta, A., Mendoza, S., & Hansen, H. (2016). Awareness and attitudes toward intranasal naloxone rescue for opioid overdose prevention. *Journal of Substance Abuse Treatment, 69*, 44-49.
32. Koester, S., Mueller, S. R., Raville, L., Langegger, S., & Binswanger, I. A. (2017). Why are some people who have received overdose education and naloxone reticent to call Emergency Medical Services in the event of overdose? *International Journal of Drug Policy, 48*, 115-124.
33. Kulesza, M., Teachman, B. A., Werntz, A. J., Gasser, M. L., & Lindgren, K. P. (2015). Correlates of public support toward federal funding for harm reduction strategies. *Substance Abuse Treatment, Prevention, and Policy, 10*(1), 25. doi:10.1186/s13011-015-0022-5
34. Lankenau, S. E., Wagner, K. D., Silva, K., Kecojevic, A., Iverson, E., McNeely, M., & Kral, A. H. (2013). Injection drug users trained by overdose prevention programs: Responses to witnessed overdoses. *Journal of Community Health, 38*, 133Y141. doi:10.1007/s10900-012-9591-7
35. Levin, S., Federico, C. M., Sidanius, J., & Rabinowitz, J. L. (2002). Social dominance orientation and intergroup bias: The legitimization of favoritism for high-status groups. *Personality and Social Psychology Bulletin, 28*(2), 144–157. doi:10.1177/0146167202282002
36. Lurigio, A. J., Andrus, J., & Scott, C. K. (2018). The opioid epidemic and the role of law enforcement officers in saving lives. *Victims & Offenders, 13*(8), 1055–1076.
37. Maxwell, S, Bigg, D, Stanczykiewicz, K, et al. (2006 Jan). Prescribing naloxone to actively injecting heroin users: A program to reduce heroin overdose deaths. *Journal of Addictive Diseases, 25*, 89–96.
38. McClellan, C., Lambdin, B.H., Ali, M.M., Mutter, R., Davis, C.S., Wheeler, E., Pemberton, M., Kral, A.H., 2018. Opioid-overdose laws association with opioid use and overdose mortality. *Addict. Behav. 86*, 90–95. <https://doi.org/10.1016/j.addbeh.2018.03.014>.
39. Miles, M. B., Huberman, A.M. 1994. *Qualitative data analysis: A sourcebook of new methods* (2<sup>nd</sup> ed.) Thousand Oaks, CA: Sage.
40. Mitchell, K. D., & Higgins, L. J. (2016). Combating opioid overdose with public access to naloxone. *Journal of Addictions Nursing, 27*(3), 160-179.
41. National Conference of State Legislatures. (2017, June 5). *Drug overdose immunity and Good Samaritan laws*. <http://www.ncsl.org/research/civil-and-criminal-justice/drug-overdose-immunity-good-samaritan-laws.aspx>
42. National Institute on Drug Abuse. (2020 April). *Opioid overdose crisis*. National Institutes of Health. Retrieved 20 May 2020 from <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-overdose-crisis#three>.

43. National Safety Council. (2019, January 14). *For the first time we're more likely to die from accidental opioid overdose than motor vehicle crash*. <https://www.nsc.org/in-the-newsroom/for-the-first-time-were-more-likely-to-die-from-accidental-opioid-overdose-than-motor-vehicle-crash>
44. Neale, J., Brown, C., Campbell, A. N., Jones, J. D., Metz, V. E., Strang, J., & Comer, S. D. (2019). How competent are people who use opioids at responding to overdoses? Qualitative analyses of actions and decisions taken during overdose emergencies. *Addiction*, 114(4), 708-718.
45. Nguyen, H., Parker, B.R., 2018. Assessing the effectiveness of New York's 911 Good Samaritan Law- Evidence from a natural experiment. *Int. J. Drug Policy* 58, 149–156. <https://doi.org/10.1016/j.drugpo.2018.05.013>.
46. Oser, CB, Leukefeld, CG, Tindall, MS, et al. Rural drug users: factors associated with substance abuse treatment utilization. *Int J Offender Ther Comp Criminol*. 2011;55:567-586.
47. Parker, A. M., Strunk, D., & Fiellin, D. A. (2018). State responses to the opioid crisis. *The Journal of Law, Medicine & Ethics*, 46(2), 367–381.
48. Papp, J., Vallabhaneni, M., Morales, A., & Schrock, J. W. (2019). Take-home naloxone rescue kits following heroin overdose in the emergency department to prevent opioid overdose related repeat emergency department visits, hospitalization and death-a pilot study. *BMC health services research*, 19(1), 1-6.
49. Parran, T.V., Muller, J.Z., Chernyak, E., Adelman, C., Delos Reyes, C.M., Rowland, D., Kolganov, M., 2017. Access to and payment for office-based buprenorphine treatment in Ohio. *Subst. Abuse Res. Treat.* 11, 1–6. <https://doi.org/10.1177/1178221817699247>.
50. Pollini, R.A., McCall, L., Mehta, S.H., Celentano, D.D., Vlahov, D., Strathdee, S.A., 2006a. Response to overdose among injection drug users. *Am. J. Prev. Med.* 31, 261–264.
51. Rando, J., Broering, D., Olson, J.E., Marco, C., Evans, S.B., 2015. Intranasal naloxone administration by police first responders is associated with decreased opioid overdose deaths. *Am. J. Emerg. Med.* 33, 1201–1204. <https://doi.org/10.1016/j.ajem.2015.05.022>.
52. Rasinski, K. A., Timberlake, J. M., & Lock, E. D. (2000). Public support for increased spending on the drug problem in America is not a simple matter. *International Journal of Public Opinion Research*, 12(4), 431–440. doi: 10.1093/ijpor/12.4.431
53. Rosenblatt, RA, Andrilla, CH, Catlin, M, Larson, EH. Geographic and specialty distribution of US physicians trained to treat opioid use disorder. *Ann Fam Med*. 2015;13:23-26.
54. Saunders, E., Metcalf, S., Walsh, O., Moore, S., Meier, A., McLeman, B., . . . Marsh, L. (2019). “You can see those concentric rings going out”: Emergency personnel’s experiences treating overdose and perspectives on policy-level responses to the opioid crisis in New Hampshire. *Drug and Alcohol Dependence*, 204, 1–10.
55. Seal, KH, Thawley, R, Gee, L, et al. (2005 Jun). Naloxone distribution and cardiopulmonary resuscitation training for injection drug users to prevent heroin overdose death: A pilot intervention study. *Journal of Urban Health*, 82, 303–311.

56. Straus, M. M., Ghitza, U. E., & Tai, B. (2013). Preventing deaths from rising opioid overdose in the USVThe promise of naloxone antidote in community-based naloxone take-home programs. *Substance Abuse and Rehabilitation*, (4).
57. Tobin, K.E., Davey, M.A., Latkin, C.A., 2005. Calling emergency medical services during drug overdose: an examination of individual, social and setting correlates. *Addiction* 100, 397–404.
58. U.S. Substance Abuse and Mental Health Services Administration, 2019. National Survey of Substance Abuse Treatment Services (N-SSATS): 2018: Data on Substance Abuse Facilities. U.S. Substance Abuse and Mental Health Services Administration, Rockville, MD.
59. Walley, AY, Xuan, Z, Hackman, HH, et al. (2013). Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: Interrupted time series analysis. *BMJ*, 346, f174.
60. Watson, D. P., Ray, B., Robison, L., Huynh, P., Sights, E., Brucker, K., & Duwve, J. (2018). Lay responder naloxone access and Good Samaritan law compliance: postcard survey results from 20 Indiana counties. *Harm Reduction Journal*, 15(1), 1-8.
61. White, M. D., Perrone, D., Watts, S., & Malm, A. (2021). Moving beyond Narcan: a police, social service, and researcher collaborative response to the opioid crisis. *American Journal of Criminal Justice*, 46(4), 626-643.

## Figures

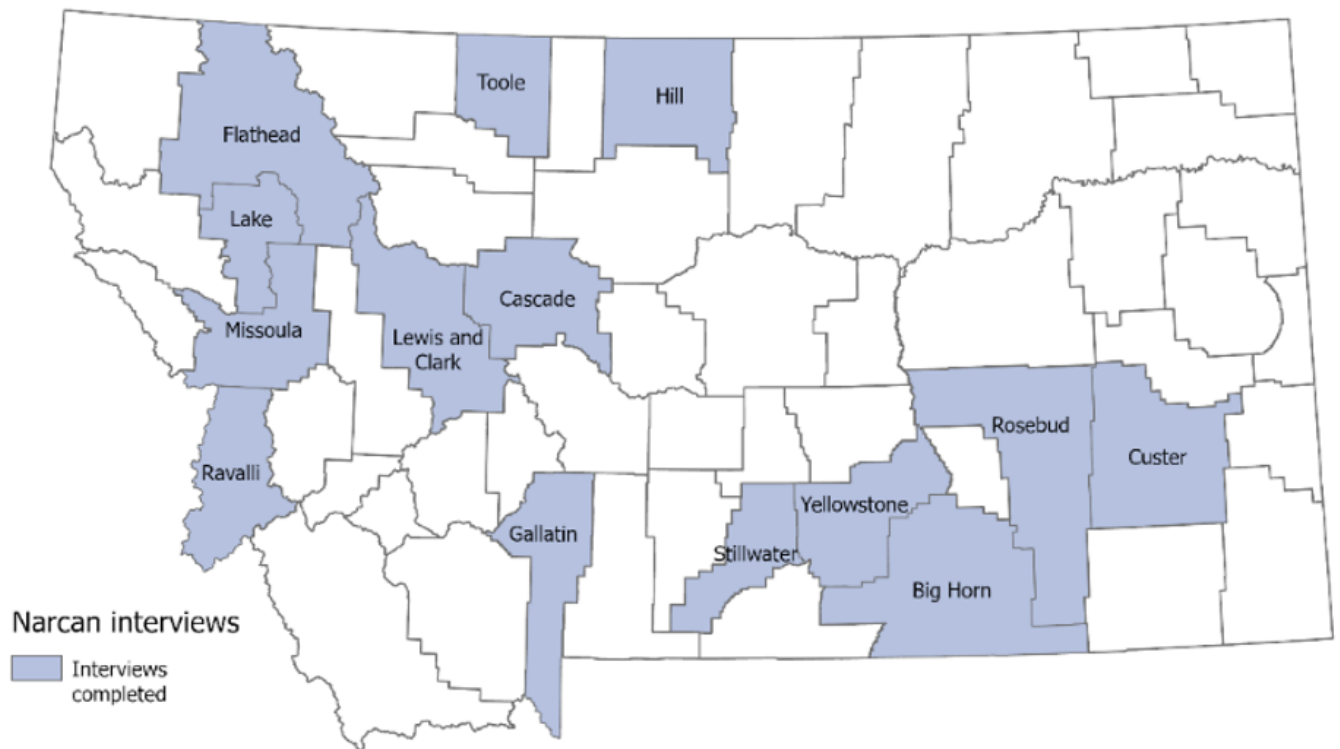


Figure 1

Map of study participants

**Figure 2**

MOUD providers by county