

Interdisciplinary Health Care Professionals' Perceptions of the Causes and Consequences of the Opioid Crisis: Developing Rural Community Partnerships to Increase Access to Naloxone

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Abstract

Opioid overdoses kill thousands of people each year, and overdose rates continue to increase. Community-university partnerships are desperately needed to provide the multipronged and multiagency responses demanded by the opioid crisis. In this study, community and university partners used a consensual qualitative research approach to analyze survey results from continuing medical education sessions in rural communities. The health care providers surveyed had variable attitudes toward the opioid crisis, ranging from empathy for patients' situations to denial that an opioid crisis exists. The voices of these professionals are critical to community partners' ongoing work to address the opioid crisis. Data from this study supported the formulation of subsequent programming for health care professionals and community members as well as the launch of fruitful opioid-focused partnerships. Understanding health care professionals' perceptions of the opioid crisis will allow public health and university teams to provide effective interventions in opioid prescription, naloxone distribution, and stigma reduction to ultimately lessen opioid dependency and overdose.

In 2019, nearly 50,000 people died of an opioid overdose in the United States, and 73% of those deaths involved synthetic opioids (Centers for Disease Control [CDC], 2021). The opioid-related mortality rate rose from 0.4% of all deaths in 2001 to 1.5% of all deaths in 2016 (Gomes et al., 2018). Counties in northeastern Minnesota face some of the highest mortality rates among people who have a mental health condition and/or opioid use disorders (OUDs) compared to other Minnesota counties (Dwyer-Lindgren et al., 2016). Health care providers' negative attitudes toward patients with OUDs are common and are known to contribute to suboptimal care for these patients (Haffajee et al., 2018; Mendiola et al., 2018; van Boekel et al., 2013). Providers face a number of barriers to delivering appropriate treatment for OUDs, including lack of support from health care systems and employers; poor coordination of care; stigma among fellow providers; inadequate reimbursement; and insufficient education, training, and experience (Andraka-Christou & Capone, 2018; Deering et al., 2011; Mojtabei et al., 2014; Peckham et al., 2018). It has been estimated that only 11–40% of people with a substance use disorder (SUD) receive evidence-based treatment for this chronic disease state, while the remaining individuals suffer in silence (Deering et al., 2011; Peckham et al., 2018; Substance Abuse and Mental Health Services Administration, 2014).

Research has shown that rural communities suffer disproportionately from SUDs (CDC, 2017) and often have limited access to treatment facilities (Brown et al., 2018). Studies have also demonstrated that opioids are more likely to be overprescribed in rural areas than in urban areas (García et al., 2019). Social determinants of health, including economic distress and social isolation, play a significant role in addiction-related and opioid-related disparities in rural communities (Rigg & Monnat, 2015; Zoorob & Salemi, 2017). While rural communities have their own challenges, they also have unique opportunities to build strong and lasting partnerships to address substance use (Palombi et al., 2017).

Rural communities in northeastern Minnesota, the focal region of this study, show many of the same trends seen in rural regions nationally and stand out with some of the highest opioid overdose rates and overprescription rates in the state (Minnesota Department of Health, n.d.). Results from community health assessments (CHAs) and research conducted with individuals in SUD recovery in this study's partner communities have indicated that negative attitudes are indeed prevalent in the study area and serve as a barrier to SUD treatment (Palombi, Hawthorne, et al., 2019). Negative attitudes, biases, and stigmas are also held by the medical community (Palombi, Hawthorne, et al., 2019).

While individuals and communities in rural Minnesota have faced hardship due to the opioid epidemic, residents remain proud of the local work ethic within industries such as mining (Saxhaug, 2014) and of the natural environment that attracts tourists from across the state and nation (U.S. Department of Agriculture Forest Service, n.d.). Hunting, fishing, snowmobiling, and other outdoor activities are popular regional hobbies. While these activities can serve as protective factors for residents at risk of developing SUDs transportation issues within the region can inhibit participation and promote feelings of isolation (Temple, 2019). However, local public health departments, university faculty, health care providers, and coalition members have committed to being a part of the solution to supporting individuals with SUD by connecting resources, building partnerships, implementing evidence-based programming, and providing relevant training sessions.

Local public health departments in Minnesota and across the nation have devoted entire positions and teams to addressing substance use through interdisciplinary, interagency, and multipronged approaches. Most public health departments serve as liaisons with or leads for grassroots community coalitions that strive to reduce substance use through prevention, intervention, recovery support services, and harm reduction. Champions from health care systems are sometimes members of these coalitions or lead their own coalitions focused on substance abuse. Interestingly, university faculty and staff are usually not represented in these coalitions and have not engaged in this collaborative work; the partnership described in this project is therefore unique but replicable.

In a 2018 statement entitled *Facing Addiction in America: The Surgeon General's Spotlight on Opioids*, U.S. Surgeon General Jerome Adams stressed that the most effective way to address the opioid crisis is to work on achieving better health through stronger partnerships (U.S. Department of Health and Human Services [HHS], 2018). While the statement issued many recommendations targeted toward different groups of people working to address the opioid crisis in various ways—including health care professionals, health care systems, governments, educators, family members, and community members—several key recommendations were especially valuable to rural teams. The statement urged health care professionals and health care systems to “create stronger

connections across behavioral health providers and mainstream medical systems” (HHS, 2018, p. 29). It urged federal, state, local, and tribal governments to “improve coordination between social service systems and the health care system to address the social and environmental factors that contribute to the risk for substance use disorders,” and it also urged educators and academic institutions to “enhance training of health care professionals” (HHS, 2018, p. 30). The underlying message of the statement was the importance of interprofessional and interagency partnerships and a multipronged, multifactorial approach, recognizing that

the responsibility of addressing opioid misuse and opioid use disorders does not fall on one sector alone, and the health care system cannot address all of the major determinants of health related to substance misuse without the help of the wider community. (HHS, 2018, p. 28)

Apart from this guidance from the surgeon general, a gap in the literature currently exists regarding interprofessional health care providers' perceptions of the causes and consequences of the opioid crisis. Research in this vein is needed to ensure that the medical community can work collaboratively with community partners to address the needs of patients with SUDs and to reduce the impact of the opioid crisis. This gap in knowledge is especially problematic for rural communities, where resources are fewer and disparities are greater. While studies have demonstrated community-university partnerships to be effective when organizations are working toward a common goal, such as decreasing disparities in rural communities, published examples of how these partnerships have been created, developed, and sustained to reduce the impact of the opioid crisis are lacking.

Methods

Creation of the Community-University Partnership

A strong partnership began approximately 1 year before the initiation of the described project, when a university faculty member and a community partner from the local public health department both attended a substance use prevention training led by a regional prevention coordinator. At this meeting, the faculty member and community partner discovered their shared interest in working with health care providers to reduce the stigma associated with substance use in the region through education. As a result, the faculty member

became involved in several additional regional substance use coalitions to learn more about how the university could contribute to the ongoing grassroots community initiatives active in the area. These relationships with regional coalitions and public health professionals were critical to the faculty member's focus and to substance use initiatives in the region, leading ultimately to an ongoing partnership and millions of dollars in federal and state grant funding.

Public health professionals responsible for assessing and evaluating health priorities in the region reported that intervening without the support of health care providers in the community had not been effective. Similarly, university faculty were aware of the need to educate the health care community and had the expertise to create relevant training materials, but they found community engagement and referral to community-based resources to be much more successful through a partnership with public health professionals than without this partnership. Realizing that they shared a common desire to educate health care professionals on how they could work together to reduce the impact of the opioid crisis, a faculty member and several public health professionals expanded their team to include additional community and university partners and diverse coalition members. Collectively, they planned continuing medical education (CME) sessions for medical professionals across the region, involving local recovery communities and harm reduction agencies such as the Rural AIDS Action Network whenever possible. The partnerships not only aligned with local community needs but also followed the surgeon general's 2018 recommendations for local public health departments to bridge gaps and for academic institutions to enhance training opportunities (HHS, 2018).

Planning CME Sessions for Health Care Professionals

University and community partners, in collaboration with local coalitions, designed interprofessional CME sessions focused on using naloxone to reverse opioid overdoses, improving the safety of opioid prescribing and dispensing, and reducing stigma associated with opioid use. These CME sessions brought together experts from health care, public health, and the university to share information about naloxone dispensing, prescribing, and harm reduction practices. Each community coalition had the opportunity to provide input on the CME sessions held in their

community, and a representative was invited to each session to share local resources.

The communities in which the CME sessions were conducted had strong histories of interdisciplinary coalition involvement, including community forums and community naloxone training sessions (Palombi, Olivarez, et al., 2019). Community input at these events was used to guide coalition activities as well as public health and university engagement efforts. Despite community members' notable interest in being trained in naloxone use and opioid overdose first aid, health care providers in these communities demonstrated less interest and engagement in these topics.

Recruitment of Participants

The community and university partners were careful to hold the five CME sessions in geographically diverse locations that were accessible and convenient to community members, such as community colleges and health system centers. Working together and building upon the diverse connections with the communities involved, the team advertised widely and successfully through local coalitions, health care systems, and key leaders to engage a variety of health care professionals.

Local coalitions were engaged throughout this process. In one rural region, the Chemical Abuse Prevention and Education (CAPE) Coalition invited providers throughout their local networks. The CAPE Coalition is made up of law enforcement, treatment providers, public health professionals, people in recovery, insurance agency representatives, and other individuals committed to SUD prevention, intervention, and recovery. The coalition had an interest in this project because they had been working on an event series in a similar vein called "Community Solutions to Substance Abuse." Each event strived to educate the community on a different substance and the available resources surrounding it. The coalition agreed that educating providers in parallel with other community members would be critical to achieving community-wide improvements in SUD prevention, intervention, and recovery.

Project Activities

Five CME events that focused on safe opioid prescribing and opioid overdose first aid with naloxone were held on five different evenings between October 2017 and December 2017. A meal was provided to attendees at each session to make the events more convenient. A total of 101 health care professionals from rural locations throughout

northeastern Minnesota attended one of the five CME sessions. These sessions were conducted in counties with some of the highest opioid overdose rates and opioid prescription rates in Minnesota (Minnesota Department of Health, n.d.); because of this, collected survey data was critical for creating collaborative public health interventions focused on health care providers. Data collected from the CME sessions complemented data collected from focus groups with individuals in SUD recovery to inform the work of community coalitions, treatment and recovery initiatives, and university partnerships.

Public health partners joined the CME sessions to ensure that attendees left each session aware of the additional resources available in their community to assist individuals at risk of an SUD. These resources included access to harm reduction services, local medication take back events and resources, and referral to SUD treatment. Consistent with best practices for community engagement, the approach to these sessions and the subsequent collaborations equitably included the aforementioned community partners, organizational representatives, and researchers in all aspects of the research process.

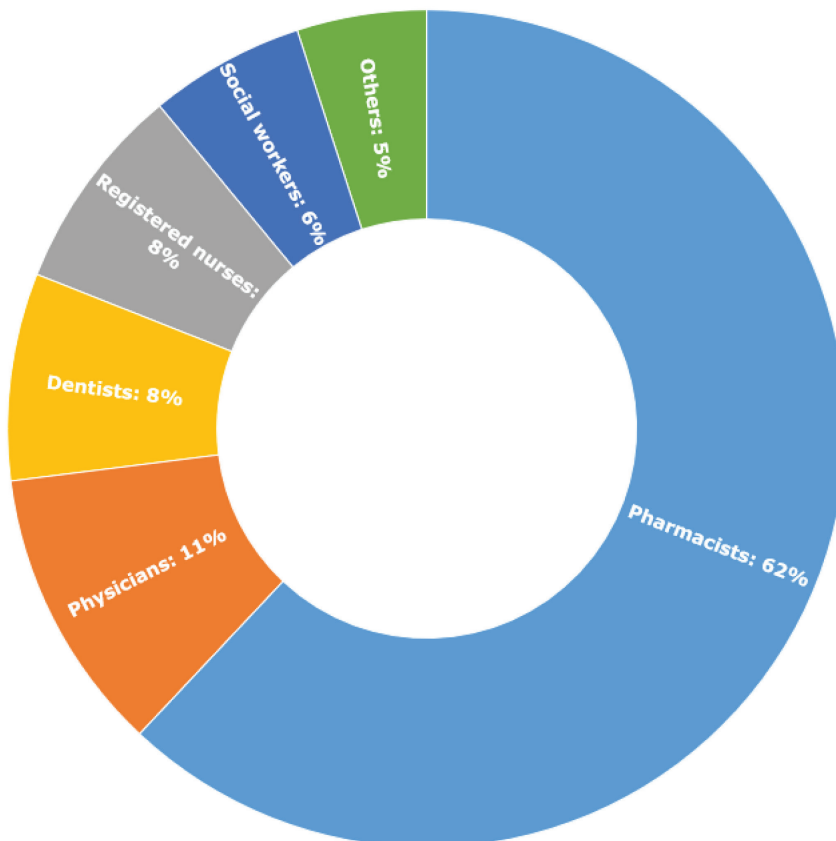
In addition to learning about available resources, community members were personally introduced to the public health partners and their role within the community. Local public health professionals were also available to answer questions regarding local trends in substance use and treatment as well as local prevention efforts.

These educational sessions were funded by St. Louis County's State Targeted Response to the Opioid Crisis Grant and facilitated by University of Minnesota faculty. The educational sessions, which were co-organized and cocreated by public health and pharmacy faculty, intended to expand participants' understanding of the following factors: opioid overdose identification, differences in naloxone formulations, naloxone access, legal considerations, and harm reduction resources to utilize in practice. Health care providers attending the CME sessions included physicians, pharmacists, registered nurses, social workers, and dentists (Figure 1).

Data Collection

Attendees were asked to anonymously complete the following six-question survey, which

Figure 1. Health Care Providers Attending Interprofessional CME Sessions



was created by public health and university partners and driven by community concern:

1. Do you think that individuals with opioid use disorder are discriminated against by the medical community? If yes, how?
2. What do your colleagues say should be done about “drug-seeking” behavior? Do you agree with your colleagues?
3. Do you feel that opioid misuse should be treated as a medical condition or a crime? Please explain.
4. Are there ways that the medical community could be collaborating to reduce overdose due to opioids? If yes, how?
5. In what ways do you observe substance use/ opioid use being stigmatized?
6. Do you think that bias and stigma contribute to the current opioid crisis? If yes, how?

Public health professionals and faculty came to a consensus on these questions based on their observations, reports of local trends, and concerns about health care providers’ perceptions of their role in the opioid crisis. The questions were vetted and piloted by a group of six public health and faculty team members. The study was determined to be not human research by the University of Minnesota’s institutional review board.

Data Analysis

Qualitative analysis of the responses was conducted by two student researchers (KM, AD) and two faculty auditors (LP, HB) using a consensual qualitative research (CQR) analytical approach (Hill et al., 2005). The CQR process started with holistic coding in the first round to identify themes in sections of text/paragraphs. Initial domain themes were independently identified by the two student researchers. Domain themes were cross analyzed between the two researchers and were then used as the first iteration list for the next step in code mapping. The code list was updated after consultation with the faculty auditors. Descriptions of domain themes were created and coding subdivisions were identified for the second round of coding. In second-cycle coding, themes became more descriptive, and codes were identified in a line-by-line fashion; this descriptive coding process allowed for the organization of domains. During the second team meeting, consensus was reached and the coders discussed what codes might be combined, noting that some domains were not well represented in the final table. The coders discussed how the research domains might be categorized, and they decided

that domains were provider-centric, patient-centric, or both provider- and patient-centric.

Results

Fifty surveys were collected from 101 attendees, a response rate of 49.5%. The qualitative results of the CME analysis are illustrated in Figure 2.

Provider-Centric Responses

Approximately 55% of the responses were health care provider-centric. The research team categorized these responses according to the following topics: stigma/bias toward individuals with SUDs, prescribing concerns, provider protection, resistance and denial, and communication and collaboration.

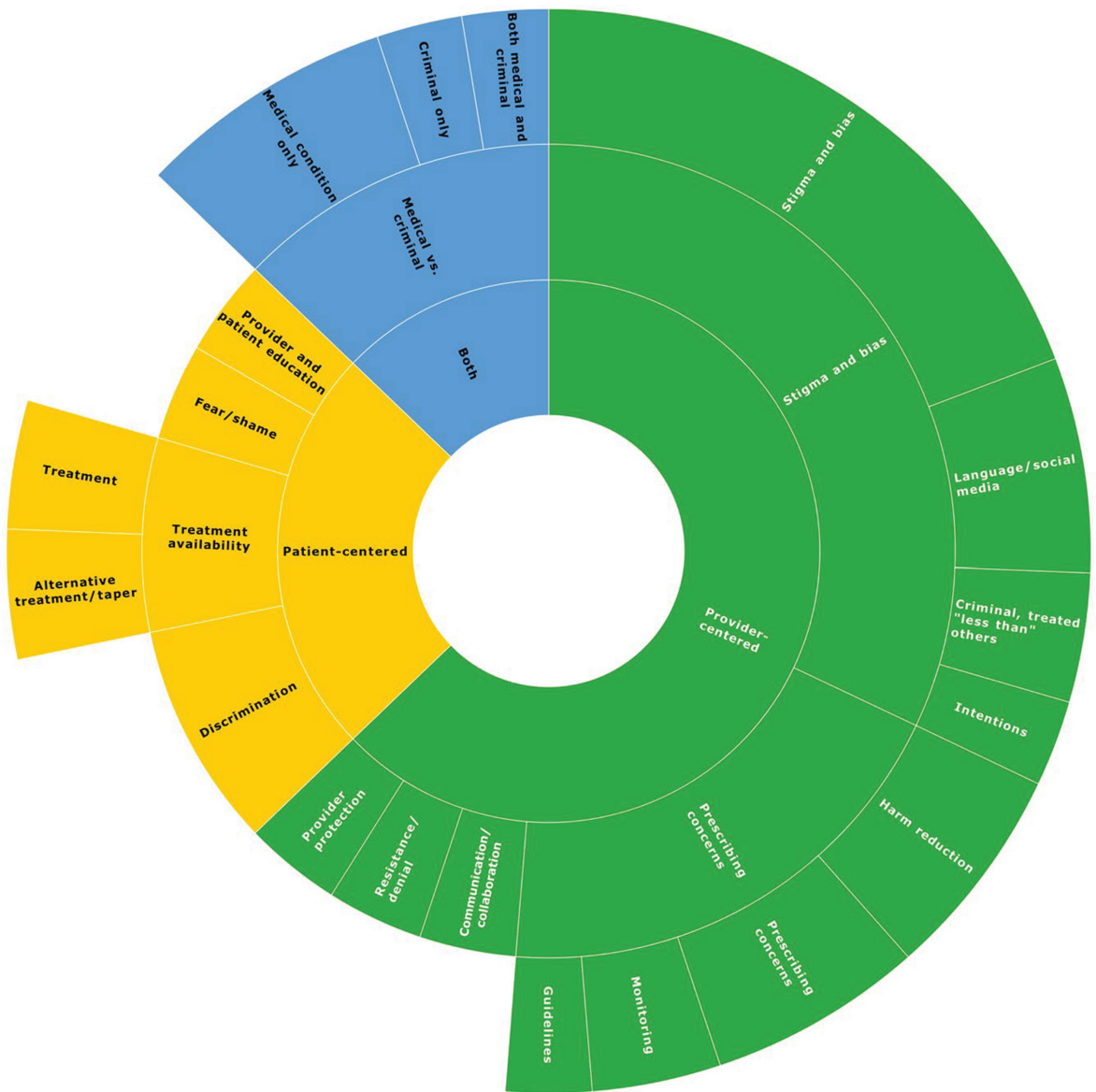
Stigma and Bias Toward Individuals With SUDs. Twenty-two percent of participants’ free-text responses suggested stigma and/or bias. Responses in this category included stigmatizing language, described patients being treated as criminals or as “less than” others, speculated about perceived patient intentions, and/or discussed the possibility that stigma and biases contribute to inadequate allocation of SUD resources.

- “Many pharmacists and doctors refer to patients as drug seekers and junkies.”
- “I think many health care providers have bias against those with opioid use disorders; we are taught to watch out for drug-seeking behaviors.”
- “Out of fear for the professional’s licenses, these patients probably do not get the same level of attention as nonaddicted patients receive.”

Prescribing Concerns. Concerns about prescribing treatment to patients who have OUDs were reported by 17% of respondents. Respondents also noted their interests in implementing harm reduction strategies, being able to monitor patients closely, and receiving more guidance through guidelines or protocols.

- “Public programs are not providing necessary counseling and treatment access.”
- “These patients often don’t benefit from jail/prison and more often need treatment programs.”
- “I think that naloxone protocols and education of both patients and providers, as well as patient’s family and friends, is a good place to start.”

Figure 2. Qualitative Results of CME Analysis



Provider Protection. A small number of respondents (7%) registered worries about risking their licenses to treat patients with OUDs. Providers expressed concern about the consequences that could arise from a situation in which the naloxone prescribed or dispensed did not save someone’s life. They reported being worried about the liability associated with dispensing a medication that could potentially have a poor outcome.

- “I am not concerned with following protocols and doing everything right. I am also not concerned with a judgment during the ensuing civil suit. I am worried about who does my job and takes care of my family while I spend the next 3 years in court fighting with

a deceased narcotic abuser’s survivors. It isn’t worth doing. We do not provide life support services, we do not have staffing and support for this; they need an emergency department for supportive care.”

- “Most of the patients that I dispense opioids to would prefer to be high all the time. They would have no desire to come down from that high. They would then blame the pharmacist or physician if something untoward would ever happen to them.”

Resistance and Denial. A small number of respondents (7%) reported resistance to treating patients with OUDs or denied that an opioid crisis currently exists.

Communication and Collaboration. One health care provider’s response suggested that increasing communication and collaboration between health care providers’ practices would benefit patient care.

Patient-Centric Responses. Approximately 29% of free-text responses included patient-centric perceptions. The research team categorized these responses according to the following topics: discrimination, treatment availability, fear and shame, and provider and patient education.

Discrimination. A cohort of providers (11%) suggested that patients with OUDs are discriminated against by the health care community.

Treatment Availability. A small number of providers (7%) identified a need for more treatment availability in treatment centers and alternative treatments or taper regimens.

Fear and Shame. Seven percent of respondents observed that patients living with OUDs face fear and/or shame in their everyday life.

- “The way that people are treated by nurses and law enforcement make it harder for them to get help, treatment, mental health care.”
- “They are stigmatized as dirty, bad people, manipulative people.”
- “Stereotypes and stigmas get in the way of seeing the patient and hearing their concerns.”

Provider and Patient Education. Respondents reported that both provider and patient education should address the opioid crisis. When respondents were asked whether they believed that patients with OUDs are living with a medical condition or have criminal tendencies, 60% reported that OUD is solely a medical condition, 20% reported that it is a medical condition with related criminal concerns, and 20% reported that it is equally a medical condition and a criminal situation.

While the qualitative results of this study provided the most insight into health care professionals’ perceptions of the causes and consequences of the opioid crisis, the quantitative results are also startling. For example, nearly 75% of respondents believe individuals with opioid use disorder are discriminated against by the medical community. Additionally, roughly 16% of respondents do not believe that stigma and bias contribute to the opioid crisis. See Table 1 for the full responses.

Discussion

Community and university partners brought together community members, public health professionals, university colleagues, local students, and health care professionals for the study’s CME sessions to discuss a topic of critical public

Table 1. Quantitative Results of CME Analysis

Qualitative Question	Participant Responses			
	Yes	Maybe	No	
Do you think that individuals with opioid use disorder are discriminated against by the medical community?	73.9%	17.4%	8.7%	
Do you think that bias and stigma contribute to the opioid crisis?	81%	2.7%	16.2%	
Do you feel that opioid misuse should be treated as a medical condition or a crime?	Medical condition only	Medical condition first but also a crime	Both a medical condition and a crime	Crime first but also a medical condition
	60.1%	19.5%	17.4%	2.1%

health significance and to gather information that could be used to combat the opioid crisis more effectively. Addressing the opioid crisis requires an interprofessional and multipronged approach if solutions are to be found (Brooks et al., 2018; Broyles et al., 2013). Collaborations spanning public health, education, health care, law enforcement, tribal health, and social services are necessary to eliminate opioid overdose, to improve health equity, and to eliminate disparities in impact (Juarez, 2017).

The fact that many provider responses indicated stigma and bias toward individuals with SUDs was of great concern to the community-university team. The results of this study inspired community and university partners to facilitate training and education designed to reduce the impact of stigma in the community and local health care settings. They adapted training materials to specifically address negative attitudes toward SUDs and encouraged community members and health care providers to self-evaluate their own words and behaviors.

Through community-engaged research conducted at community forums, via focus groups, and in technical assistance projects intended to increase patients' and providers' access to evidence-based treatments for OUD, our team has gained an even greater appreciation for the depth and nature of the stigma and the difficulties in addressing it. We have learned that one of the most effective ways to combat stigma is to provide an opportunity for an individual in SUD recovery to share their story of substance use and recovery or for a well-respected individual from the community (e.g., a health care provider or Tribal Elder) to share a story of their family member's struggles with an SUD. Both community members and health care professionals have reported this approach to be effective in changing the way that they view SUDs; these testimonials help community members and providers understand that those with SUDs are not any different from their own friends and family and that SUDs are a clinical condition rather than a moral failing.

This study's implications, combined with lessons learned through other methods of community engagement, may inform new models for professional training in health care, education programs, current practitioners, and communities looking to improve patient care that want to explore interprofessional solutions to combat SUDs. This study has been critical in adapting public health approaches to work with health care providers in

northeastern Minnesota, as it has allowed for a greater understanding of provider education needs and attitudes toward SUDs that will continue to inform new programming. Future work will focus more specifically on interventions that hope to address health care providers' barriers toward treating patients with SUDs, improve patient access to SUD care, and minimize the burden of stigma.

While this study illuminated the influence of provider barriers on SUD treatment, it also confirmed that this group of health care providers recognized some of the burdens that are known to face patients who are seeking care (Andraka-Christou & Capone, 2018; Deering et al., 2011; Haffajee et al., 2018; Mendiola et al., 2018; Mojtabai et al., 2014; Peckham et al., 2018). Over half of the collected surveys contained provider-centric concerns, even though the questions were patient-centric in nature. Results indicate a need to provide additional education on SUD as a clinical condition and more information on appropriate treatments for SUDs, including medication-assisted treatment. These findings suggest that CME attendees had significant concerns about the impact of the opioid crisis on their practices, which could hinder their care of patients with SUDs and their likelihood of suggesting or dispensing naloxone.

The community-university team will improve care for individuals with SUDs by advancing interprofessional collaboration with the help of improved local data availability. Using results from this survey, the interdisciplinary team sought to improve care by pursuing interventions that capitalize on partnerships and collaboration. These interventions focus on improving treatment availability, reducing stigma toward individuals with OUDs, increasing education of the community and health care providers, and increasing communication and collaboration.

Community-Focused Interventions

Health care providers in this study indicated that more education for the community and health care providers alike was desperately needed to improve outcomes for individuals with SUDs in their communities. These findings have inspired additional community-based interventions. Community and university partners conducted focus groups with individuals in long- and short-term SUD recovery to learn more about community-level factors that might help or hinder recovery, and the partners have disseminated the findings from these focus groups to public

health leaders and policy-makers to support investments in housing, chemical-free social activities, and treatment facilities in rural parts of the state (Palombi, Hawthorne, et al., 2019). Recognizing the role of mental health in the SUD trajectory, faculty and community partners also became trained in Mental Health First Aid, and they educate community members, treatment and recovery professionals, and health care providers across Minnesota. The community-university team has conducted community forums in several of these communities since the time of this study to facilitate collaboration; to learn more about community needs; and to educate the community on SUD prevention, intervention, and recovery (Palombi, Olivarez, et al., 2019).

Additionally, many community members, health care providers, and coalition members in these rural communities have taken advantage of the valuable e-learning opportunities that several Project ECHO (Extension for Community Healthcare Outcomes) hubs in Minnesota provide. Project ECHO aims to provide cross-site learning among rural clinics focused on opioid and controlled substance topics and to give rural communities access to experts (CHI St. Gabriel's Health, n.d.; Hennepin Healthcare, n.d.). Similar to the Project ECHO model, the study's CME events served as an opportunity to provide mentorship and knowledge sharing among health care professionals. Online prevention, treatment, harm reduction, and naloxone training resources provided by university partners were shared at these events.

Comprehensive CHAs have been completed in the counties participating in this project, and assessments will be repeated in 2021 to determine if community concerns regarding SUDs and the opioid crisis have become less critical than other public health issues. Currently, substance use remains one of the top priorities reported in the CHAs for participating counties. CHAs and community health improvement plans continue to shed light on how community-university partnerships can improve care for individuals with SUDs, prevent new SUDs, and improve community and health care professionals' attitudes toward SUDs. In line with the local CHAs, the community-university team has conducted surveys specifically examining the views and practices of pharmacists, emergency medical service providers, and dentists related to the opioid crisis locally and statewide in order to identify areas for potential further collaboration and education.

Use of Best Practices in Community Engagement

This project involved faculty researchers working with rural community members and professionals toward a common goal, and all stakeholders developed a deeper and more authentic partnership as the work progressed (CCPH Board of Directors, 2013). Rural community members and professionals drafted the vision for this project together, and university partners co-orchestrated the design, implementation, and evaluation of this research. While the faculty researchers excelled in data analysis, community partners were well positioned to disseminate the findings to the public, and a power-sharing balance of responsibilities developed that harnessed each partner's strengths. Relationships between public health and faculty partners deepened as a result of this project, and partnerships expanded to new public health departments and new faculty members. New relationships led to related projects aimed at engaging health care professionals in the opioid crisis. Community partners joined faculty as copresenters at local and statewide meetings and conferences, and faculty joined community partners at local coalition meetings to disseminate findings, gather further community input, and share the benefits of the partnership's accomplishments.

This partnership was responsible for transformative experiences on multiple levels; individuals learned about SUDs as a clinical condition rather than a moral failure, which translated into broader institutional, community, and political transformation (CCPH Board of Directors, 2013). The partnership also led to new federally funded projects that provide technical assistance focused on opioid and substance use to the rural communities involved in the described project, including interventions in their school systems, substance use prevention infrastructure, treatment and recovery circles, health care and public health infrastructure, criminal justice system, and community norms. Additionally, this project led to policy changes related to substance abuse in the local public health departments, health care systems, and schools.

These partnerships are successful because participants understand that the community and public health partners, faculty members, and individuals with SUDs or in recovery from SUDs are equals (CCPH Board of Directors, 2013). While the stakeholders in this project each have their different strengths, they understand that each partner brings their own wisdom and experiences

to shared projects. The stakeholders have seen how much more can be accomplished together, leveraging individual strengths, than by working individually. The partners in this project listen to each other and apologize if they find themselves in error or insensitivity. They learned how to feel comfortable sharing grand ideas yet also know how to manage the small details as a team, which is vital for success. The partners are united by a common purpose, the heartbreak shared for those who continue to suffer, and the hope that communities can do better.

The team has developed authentic friendships within the community, allowing for sustained collaborations across multiple projects. The team has been able to build a positive reputation due to this authenticity and humility, and the described work has expanded to include partnerships with new communities that are often less receptive to working with universities because of the mistreatment they have experienced in the past (and may unfortunately continue to experience). Being honest about the past and current shortcomings and failures of the university allows for more open and fruitful dialogue and opens up the potential for stronger relationships and lasting change.

Continued and Future Work

This community-university partnership took action to seek out additional voices of community members, including people in recovery, to find ways to improve access to treatment and referrals in response to the emerging concern among providers that SUD treatment is currently unavailable or lacking. Since the initial assessment of provider perceptions of the causes and consequences of the opioid crisis, shared decision-making has led to more targeted efforts to identify and refer patients who would benefit from SUD treatment. Community and university partners became trained as trainers in screening, brief intervention, and referral to treatment (SBIRT), an evidence-based screening tool to support and refer individuals with SUDs. The partners now work to implement SBIRT in area clinics and county programs such as child protective services and Women, Infants, and Children (WIC) programs, among others.

Local public health professionals and leaders from the University of Minnesota continue to work with health care providers and pharmacies within the study region to provide education focused on medication-assisted treatment and

to implement opiate antagonist protocols. These protocols require a prescriber to sign off on a standing order, allowing an at-risk individual, or an individual with a loved one at risk of opioid overdose, to receive naloxone without a prescription. Additional trainings available to both professionals and community members have and will continue to be scheduled within the region to address naloxone, signs of an overdose, the administration of naloxone, and the idea of SUDs as a disorder as opposed to a moral failing. Collaborating on opiate antagonist protocol implementation allows for both university and community partners to work toward mutual goals that serve and benefit the shared communities in this region. While causation cannot be proven, notable improvements in naloxone dispensation by pharmacists (Erickson, 2019) and reductions in opioid prescribing by providers (Johnson, 2020) have occurred in the communities that participated in this project.

Providers participating in this study noted a need to improve communication and collaboration among various health care providers and between the health care providers and the community. Since the time of this study, more focused efforts have been initiated with prescribers not well represented at the CME sessions to address opioid prescribing, medication take back, and stigma. University resources including faculty and staff time continue to support local coalitions in their efforts to address the opioid crisis. Health care providers have been encouraged to join these coalitions. Community members and professionals joined faculty in their efforts to educate and engage interprofessional student audiences on addressing the opioid crisis, and the results of this study have been used as a discussion point in these endeavors.

The results of this study were carefully considered in creating a subsequent research study that examined the recovery experience for individuals living in rural Minnesota; the results have been shared prepublication with local health care systems so that health care providers can learn more about the startling ways that bias and stigma serve as barriers for individuals seeking treatment. The subsequent study serves as yet another way to share the “voices” of individuals in recovery so that health care providers as well as public health professionals, faculty, and community members can become more supportive of the recovery process. This study has led to new understandings of how specific populations (e.g., individuals who identify as LGBTQIA) experience more severe

bias from the medical community that leads to even greater disparities in care. This research would not have been possible without the strong relationships with community members and recovery professionals that were created as a part of the described work.

Future work will include evaluating the beliefs of other health care professions and bringing the diverse voices and wisdom of the recovery community to these groups. The University of Minnesota College of Pharmacy continues to partner with local public health departments across northeastern Minnesota in an ever-widening geographical area as these partners assess and evaluate ways to engage additional health care professions and various community voices within the region. Using the expertise of the University of Minnesota College of Pharmacy and the lessons learned through this study, local public health officials can streamline their assessment and evaluation processes when focusing on other health care populations. The innovative approach described in this publication can be replicated not only for a variety of health care professions but also in regions across the nation.

Community engagement is a valuable tool for transformational change that is desperately needed to reduce substance use and to create systems that support recovery across the United States. In partnership with community, our colleges and universities remain “one of the greatest hopes for intellectual and civic progress” and are still called—just as they were many years ago—to become a “more vigorous partner in the search for answers to our most pressing social, civic, economic and moral problems” (Boyer, 1996, p. 18). The opioid crisis is a critical public health emergency with social, civic, economic, and moral components that requires university partners to embrace new roles and responsibilities for the good of all.

Limitations

One limitation of this study is that the providers who attended the CME sessions were likely more interested than a representative sample of providers would be in investing time to find solutions to the opioid crisis. Pharmacists made up a large percentage of the attendees, which may bias the overall study response. Attendees were also not required to complete the survey, so it is possible that only the most engaged attendees filled out the survey; such a situation could lead to even more positively biased results.

Conclusion

Although health care providers attending these CME sessions were surveyed on patient-centric questions, over half of the responses collected were provider-centric in nature. The results suggest that health care professionals face barriers in addressing the opioid crisis and providing care to patients with SUDs, but they also recognize that these patients face barriers in seeking treatment. The feedback provided by medical providers in this study contributes to a growing body of literature that illuminates barriers to care for patients with SUDs. Careful attention to this data as well as data collected from the recovery community will allow for improved provider education and care for these patients.

The CME project served as a launchpad for fruitful and ongoing community-university partnerships—some that are now fortunate enough to have been funded by large federal grants—that have expanded beyond the health care setting to include the recovery community as well as pharmacy students. These interdisciplinary, multipronged, and multifactorial approaches, which include both diverse health care providers and individuals impacted personally by SUDs, are necessary to make progress in addressing the opioid crisis.

References

- Andraka-Christou, B., & Capone, M.J. (2018). A qualitative study comparing physician-reported barriers to treating addiction using buprenorphine and extended-release naltrexone in U.S. office-based practices. *International Journal of Drug Policy, 54*, 9–17. <https://doi.org/10.1016/j.drugpo.2017.11.021>
- Brooks, M.J., Holm, S.E., Thomas, S., & Rich, A.J. (2018). Addressing opioid misuse and abuse through interprofessional engagement and education. *The Internet Journal of Allied Health Sciences and Practice, 16*(1), Article 9. <https://doi.org/10.46743/1540-580X/2018.1695>
- Brown, J.D., Goodin, A.J., & Talbert, J.C. (2018). Rural and Appalachian disparities in neonatal abstinence syndrome incidence and access to opioid abuse treatment. *Journal of Rural Health, 34*(1), 6–13. <https://doi.org/10.1111/jrh.12251>
- Broyles, L.M., Conley, J.W., Harding, J.D., Jr., & Gordon, A.J. (2013). A scoping review of interdisciplinary collaboration in addictions education and training. *Journal of Addictions Nursing, 24*(1), 29–36. <https://doi.org/10.1097/JAN.0b013e318282751e>

- Boyer, E.L. (1996). The scholarship of engagement. *Bulletin of the American Academy of Arts and Sciences*, 49(7), 18–33. <https://doi.org/10.2307/3824459>
- Centers for Disease Control and Prevention. (2021, March 25). *The drug overdose epidemic: Behind the numbers*. <https://www.cdc.gov/drugoverdose/data/index.html>
- Centers for Disease Control and Prevention. (2017, October 19). *Drug overdose death rates are higher in rural areas than in urban areas* [Press release]. <https://www.cdc.gov/media/releases/2017/p1019-rural-overdose-deaths.html>
- CHI St. Gabriel's Health. (n.d.). *Project Echo*. Retrieved September 15, 2021, from <https://www.chistgabriels.com/echo/>
- CCPH Board of Directors. (2013). *Position statement on authentic partnerships*. Community-Campus Partnerships for Health. <https://ccphealth.org/95-2/principles-of-partnering/>
- Deering, D.E.A., Sheridan, J., Sellman, J.D., Adamson, S.J., Pooley, S., Robertson, R., & Henderson, C. (2011). Consumer and treatment provider perspectives on reducing barriers to opioid substitution treatment and improving treatment attractiveness. *Journal of Addictive Behaviors*, 36(6), 636–642. <https://doi.org/10.1016/j.addbeh.2011.01.004>
- Dwyer-Lindgren, L., Bertozzi-Villa, A., Stubbs, R.W., Morozoff, C., Kutz, M.J., Huynh, C., Barber, R.M., Shackelford, K.A., Mackenbach, J.P., van Lenthe, F.J., Flaxman, A.D., Naghavi, M., Mokdad, A.H., & Murray, C.J.L. (2016). US county-level trends in mortality rates for major causes of death, 1980–2014. *Journal of the American Medical Association*, 316(22), 2385–2401. <https://doi.org/10.1001/jama.2016.13645>
- Erickson, A. (2019, September 5). Pharmacies in Carlton County dispensed the second-highest rate of naloxone in state. *Duluth News Tribune*. <https://www.duluthnewstribune.com/lifestyle/health/4644343-Pharmacies-in-Carlton-County-dispensed-the-second-highest-rate-of-naloxone-in-state>
- García, M.C., Heilig, C.M., Lee, S.H., Faul, M., Guy, G., Iademarco, M.F., Hempstead, K., Raymond, D., & Gray, J. (2019). Opioid prescribing rates in nonmetropolitan and metropolitan counties among primary care providers using an electronic health record system — United States, 2014–2017. *Morbidity and Mortality Weekly Report*, 68(2), 25–30. <https://doi.org/10.15585/mmwr.mm6802a1>
- Gomes, T., Tadrous, M., Mamdani, M.M., Paterson, M., & Juurlink, D.N. (2018). The burden of opioid-related mortality in the United States. *Journal of the American Medical Association Network Open*, 1(2), Article e180217. <https://doi.org/10.1001/jamanetworkopen.2018.0217>
- Haffajee, R.L., Bohnert, A.S.B., & Lagisetty, P.A. (2018). Policy pathways to address provider workforce barriers to buprenorphine treatment. *American Journal of Preventive Medicine*, 54(6S3), S230–S242. <https://doi.org/10.1016/j.amepre.2017.12.022>
- Hennepin Healthcare (n.d.). Project ECHO. <https://www.hennepinhealthcare.org/project-echo/>
- Hill, C.E., Knox, S., Thompson, B.J., Williams, E.N., Hess, S.A., & Ladany, N. (2005). Consensual qualitative research: An update. *Journal of Counseling Psychology*, 52(2), 196–205. <https://doi.org/10.1037/0022-0167.52.2.196>
- Johnson, M.T. (2020, January 24). *Essentia cuts long-term opioid prescriptions in half, in just 5 years*. DL-Online. <https://www.dl-online.com/business/health-care/4878946-Essentia-cuts-long-term-opioid-prescriptions-in-half-in-just-5-years>
- Juarez, P. (2017, December 27). *Opioid crisis: data-related strategies for special populations to improve health equity and prevent opioid addiction and overdose*. Office of Minority Health. https://minorityhealth.hhs.gov/Assets/pdf/ACMH_Recommendations-12-27-2017.pdf
- Mendiola, C.K., Galetto, G., & Fingerhood, M. (2013). An exploration of emergency physicians' attitudes toward patients with substance use disorder. *Journal of Addictive Medicine*, 12(2), 132–135. <https://doi.org/10.1097/ADM.0000000000000377>
- Minnesota Department of Health. (n.d.). *Opioid dashboard*. <https://www.health.state.mn.us/opioiddashboard>
- Mojtabai, R., Chen, L.-Y., Kaufmann, C.N., & Crum, R.M. (2014). Comparing barriers to mental health treatment and substance use disorder treatment among individuals with comorbid major depression and substance use disorders. *Journal of Substance Abuse Treatment*, 46(2), 268–273. <https://doi.org/10.1016/j.jsat.2013.07.012>
- Palombi, L., Hawthorne, A.N., Irish, A., Becher, E., & Bowen, E. (2019). “One out of ten ain't going to make it”: An analysis of recovery capital in the rural upper Midwest. *Journal of Drug Issues*, 49(4), 680–702. <https://doi.org/10.1177/0022042619859309>

Palombi, L., Olivarez, M., Bennett, L., & Hawthorne, A.N. (2019). Community forums to address the opioid crisis in rural Minnesota: An effective grassroots approach to rural community engagement. *Substance Abuse: Research and Treatment*, 13, Article 1178221819827595. <https://doi.org/10.1177/1178221819827595>

Palombi, L.C., Vargo, J., Bennett, L., Hendler, J., Coughlin, P., Winter, G., & LaRue, A. (2017). A community partnership to respond to the heroin and opioid abuse epidemic. *Journal of Rural Health*, 33(1), 110–113. <https://doi.org/10.1111/jrh.12180>

Peckham, A.M., Niculete, M.E., Steinberg, H., & Boggs, D.L. (2018). A survey of prescribers' attitudes, knowledge, comfort, and fear of consequences related to an opioid overdose education and naloxone distribution program. *Journal of Public Health Management and Practice*, 24(4), 310–317. <https://doi.org/10.1097/PHH.0000000000000668>

Rigg, K.K., & Monnat, S.M. (2015). Urban vs. rural differences in prescription opioid misuse among adults in the United States: Informing region specific drug policies and interventions. *International Journal of Drug Policy*, 26(5), 484–491. <https://doi.org/10.1016/j.drugpo.2014.10.001>

Saxhaug, J. (2014, January). *Mining for growth: High paying mining jobs anchor the northeastern Minnesota labor market*. Minnesota Department of Employment and Economic Development. <https://mn.gov/deed/newscenter/publications/review/january-2014/mining.jsp>

Substance Abuse and Mental Health Services Administration. (2014). *Results from the 2013 National Survey on Drug Use and Health: Summary of national findings* (NSDUH Series H-48, HHS Publication No. 14-4863). U.S. Department of Health and Human Services. <https://www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHresults2013.pdf>

Temple, K.M. (2019, July 10). *The ruralness of social isolation: Information from recent public health research*. The Rural Monitor. <https://www.ruralhealthinfo.org/rural-monitor/social-isolation-research/>

U.S. Department of Agriculture Forest Service. (n.d.). *Welcome to the Superior National Forest*. <https://www.fs.usda.gov/superior>

U.S. Department of Health and Human Services. (2018, September). *Facing addiction in America: The surgeon general's spotlight on opioids*. https://addiction.surgeongeneral.gov/sites/default/files/Spotlight-on-Opioids_09192018.pdf

Van Boekel, L.C., Brouwers, E.P.M., van Weeghel, J., & Garretsen, H.F.L. (2013). Stigma among health professionals towards patients with substance use disorders and its consequences for health care delivery: Systematic review. *Drug and Alcohol Dependence*, 131(1–2), 23–35. <https://doi.org/10.1016/j.drugalcdep.2013.02.018>

Zoorob, M.J., & Salemi, J.L. (2017). Bowling alone, dying together: The role of social capital in mitigating the drug overdose epidemic in the United States. *Drug and Alcohol Dependence*, 173, 1–9. <https://doi.org/10.1016/j.drugalcdep.2016.12.011>

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