



# Implementation of a post-overdose quick response team in the rural Midwest: A team case study

Meredith L. Canada\* and Scott W. Formica†

## ABSTRACT

The opioid-involved overdose crisis in the United States has had devastating effects on communities across the country. Post-overdose outreach teams have emerged as one way to reduce overdose risk for individuals who use drugs. Limited literature exists on how these teams are developed and how they operate. Even less is known about these teams in rural locations. This case study explored one rural team's implementation, including its strengths and barriers to serving participants. Findings from interviews with program staff indicate the team had a consistent procedure for conducting outreach with overdose survivors and family members, had broad support and buy-in from leadership, and were able to clearly articulate the program's strengths, challenges, and opportunities for growth—including the need for more formal program evaluation. Factors that facilitated implementation included use of a person-centred and non-coercive approach, establishment of team role boundaries, multi-disciplinary collaboration, empathy, and buy-in across agencies and town leadership. Barriers included stigma among citizens, lack of an evaluation plan, difficulty providing outreach to individuals who have unstable housing, and difficulty following up with service agencies. The findings can benefit other jurisdictions, especially small and rural localities seeking to address the drug crisis more effectively.

**Key Words** Post-overdose outreach; opioid overdose; overdose prevention; co-response team; law-enforcement led.

## INTRODUCTION

Drug overdoses are at crisis levels in the United States. In the last twenty years, more than 750,000 people have died from a drug overdose (CDC, 2020). Opioid-related deaths contributed to declining life expectancy in the United States from 2014 to 2016 (Ho & Hendi, 2018). During this period, nationally, an 18% decline in life expectancy for women and a 42% decline for men were attributed to overdoses. Individuals who survive a drug-related overdose are at higher risk for future drug overdose (Darke et al., 2011; Larochelle et al., 2019).

Vulnerability to drug overdoses is complex. Few studies exist on the epidemiology of drug overdoses in rural communities. Several suggest that rural communities have been disproportionately affected by drug overdoses (Mack et al., 2017). However, at least two studies, including a study about Indiana, indicate this may not be the case. For example, in Georgia, urban communities demonstrated a higher rate of overdoses compared with rural communities (Valentini & Jayawardhana, 2019). Sawyer et al. (2021) analyzed all 92 Indiana counties for overdose vulnerabilities using thirteen factors. They identified social and economic marginalization as having the strongest impact on overdose rates; such factors

included income, unemployment, education, disability status, female-led households, and non-Hispanic Black households. Even so, it is well documented that rural localities compared with urban centres have significantly fewer resources and policies to effectively address the ever-increasing drug overdose crisis (Swann et al., 2021). However, interventions used in urban areas for individuals at risk for drug overdose, for example those who inject drugs, can be tailored to meet the needs of individuals in rural localities (Havens et al., 2011).

Multi-disciplinary post-overdose response programs have emerged in communities across the United States to assist individuals who have recently survived a drug overdose, yet little is known about their compositions, implementation, and outcomes (HIDTA, 2018). In their scoping review, Bagley et al. (2019) identified 27 post-opioid overdose programs, 24 of which were described in gray literature while the other three were documented in peer-reviewed literature. Post-opioid overdose interventions appear to belong to five categories based on when they are deployed, where they are deployed, and which entities collaborate. In general, a post-overdose response team is a multidisciplinary team that includes a police officer, a paramedical professional, a mental health and/or substance abuse counselor, and/or a peer support

**Correspondence to:** Meredith Canada, Indiana University School of Social Work, 902 W. New York St., Indianapolis, IN 46202 USA. **E-mail:** mlcanada@iu.edu

**To cite:** Canada, M. L., & Formica, S. W. (2022). Implementation of a post-overdose quick response team in the rural Midwest: A team case study. *Journal of Community Safety and Well-Being*, 7(2), 59–66. <https://doi.org/10.35502/jcswb.233>

© Author(s) 2022. Open Access. This work is distributed under the Creative Commons BY-NC-ND license. For commercial re-use, please contact [sales@sgpublishing.ca](mailto:sales@sgpublishing.ca).

SG PUBLISHING Published by SG Publishing Inc. **CSKA** Official publication of the Community Safety Knowledge Alliance.

specialist (Formica et al., 2018). These programs may also be called drug abuse response teams (DART), quick response teams (QRT), or naloxone plus (BJA, 2021). The team conducts outreach to individuals who have survived a drug overdose. Teams seek to conduct outreach visits within a defined period (e.g., 1–3 days) following the overdose event (Formica et al., 2021). Quick response teams may be effective because they have the potential to break down cultural and procedural barriers across agencies. The literature suggests that, rather than collaborating, different agencies within one system often work in parallel (Mason et al., 2017).

While there is evidence to suggest that an increasing number of municipalities are adopting post-overdose outreach programs (BJA, 2021; Formica et al., 2021), particularly in the wake of fentanyl and fentanyl analogs entering the drug supply, there are currently no evidence-based best practices to guide their design or implementation. Limited practice-based guidance characterizing early adopters of this approach identifies the importance of establishing clear goals, fielding a multi-disciplinary team of service providers, training staff members on procedures and equipping them with the knowledge and tools needed to effectively work with overdose survivors, operating discretely to not draw unnecessary and potentially stigmatizing attention to individuals, protecting participants' privacy, not engaging in enforcement activities during outreach, and extending supportive services to family and social network members (HIDTA, 2018; NYSDOH, 2021).

Descriptive studies on the formation and implementation of post-overdose outreach programs have been conducted in well-resourced urban (White et al., 2021) and suburban (Davoust et al., 2021; Donnelly et al., 2021) settings, but these programs have not been comprehensively described in rural settings despite evidence that the emergence of these programs is not limited to a specific type of geography (BJA, 2021). To begin to address this gap in the literature, this case study examined the creation and implementation of a law-enforcement-led QRT in the rural Midwest. The guiding research question was: how do post-overdose outreach teams operate in one rural locality?

## METHODS

### Study Design and Setting

The lead author conducted an exploratory single-case study of a rural post-overdose outreach team. Case study methodology is designed to answer “how” and “why” questions and is relevant to understanding contemporary issues in the field (Yin, 2017). This design was chosen because rural QRTs are not well represented in the literature and findings from this study can help inform implementation of teams in other rural settings. Data were collected during face-to-face interviews in November and December of 2018 from staff members within a single QRT program in the rural Midwest.

The QRT operates in a town with approximately 5,000 residents in a county that is part of a metropolitan statistical area (U.S. Census Bureau, 2022). However, the town is inside a census tract that is designated as rural (HRSA, 2018). The town is at least 90% White, non-Latinx/Hispanic. The town is located off two major traffic corridors, near a major entertainment destination.

At the time of the program's inception, the Midwest had started to see a drastic increase in deaths from synthetic opioids (CDC, 2022b). The QRT's county overdose deaths were above the state average, with about 30 deaths per 100,000 (age adjusted) (CDC, 2022a). Emergency room visits and in-patient hospitalizations were below the state average, with about 160 per 100,000 and 80 per 100,000, respectively. People admitted for drug treatment in the county were nearly twice the state average, with over 1,000 per 100,000.

### Participant Selection and Participants

Based on word-of-mouth, the lead author identified a QRT program operating within a police department in a rural community in the Midwest. The Chief of Police (Chief) was contacted by e-mail and invited to participate in the study. The Chief identified members of the QRT who would be interested in participating in interviews. Five individuals participated, all of whom had responded to at least one post-overdose outreach visit. These individuals included the city's Mayor, the Chief, a licensed mental health professional employed by the local community mental health centre (LMHP), a law enforcement officer (LEO), and the Fire Chief (medic). All participants were White; one participant was female.

### Measures and Procedures

The semi-structured interview protocol included questions about the structure and composition of the QRT, program development and implementation, and processes for linking participants to services and follow-up. Several interview questions were developed using an appreciative inquiry framework (Coghlan et al., 2003). Appreciative inquiry invites participants to identify positive experiences and successes and to imagine future possibilities and growth. Appreciative inquiry may be used when little is known about a particular topic and, therefore, is a good fit for this study. Interview questions focused on the purposes, strengths, and challenges of program implementation both at the program level and by professional role.

Interview data were collected from August 2018 to December 2018. The first interview was conducted with the Chief and the Mayor at the police station as a group. This interview was not recorded; detailed notes were taken. This interview lasted approximately 90 minutes. The second and third interviews were conducted with the Chief, LEO, and LMHP, as a group. This interview was held at the police station. The third interview was held at the fire house with the medic. The second and third interviews lasted about 30 minutes each. Interviews were recorded and transcribed by the first author.

### Ethical Review

All study procedures were reviewed and exempted by the Institutional Review Board of Indiana University.

### Analysis

The lead author reviewed the transcripts from the three interviews multiple times and coded the transcripts according to the *a priori* domains within the semi-structured interview protocol. This analysis approach was used to develop a descriptive framework of the QRT's implementation and day-to-day operations (Yin, 2017). Following initial coding, data were additionally deductively coded for other domains of interest that emerged.

## RESULTS

Through the interviews, several themes emerged describing how the QRT operated, including its goals, how the team conducted outreach, how the team linked participants to care, and implementation strengths and challenges. These themes and sub-themes are described below.

### Program Inception

The QRT program was initiated by the Chief of Police in the fall of 2016. The Chief learned about this model from an urban law enforcement agency’s post-overdose outreach program formed in July 2015 (Colerain DPS, 2016). In the original model, a police officer, substance use disorder counselor, and firefighter/paramedic conducted home-based follow-up with overdose survivors and their family/caregivers within 3 to 5 days of the overdose event. The Chief consulted with this agency to develop a similar model that would fit a rural setting.

### QRT Goals

Interviewees articulated three specific goals for the QRT. First, according to the Chief, the team seeks “to be a resource for survivors and families of drug overdoses” by providing

information about treatment resources and other community resources to overdose survivors and those living in the residence with the overdose survivor. Elaborating on this statement, he added that the QRT is a way for “the community to show up and demonstrate that we care” for persons who have survived an overdose and their family. Second, according to the LMHP, the team seeks to provide linkages to substance use treatment services. Third, according to the medic, the team seeks to be a supportive presence to survivors and their family. Further, the LMHP indicated that in addition to supporting the overdose survivor, the team attempts “to validate the family members’ experiences that their family have previously tried some form of treatment and it didn’t work.” During the interviews, multiple interviewees expressed that they seek to encourage survivors and family members to never give up; the LMHP noted that they “seek to encourage survivors and family that even though [treatment or recovery] didn’t work last time, recovery could work this time.”

Documentary review of the QRT’s program logic model revealed a high degree of alignment between the goals as described by interviewees and the QRT’s pre-specified short-term and long-term goals. As shown in Figure 1, the program’s short-term goals were to raise awareness of supports and resources, decrease risk of future overdose, improve community

| Inputs   | Activities  | Participants   | Short-term goals  | Long-term goals   |
|--|---|--|---|---|
| <p>Staff</p> <ul style="list-style-type: none"> <li>QRT Team members</li> <li>Chief of Police</li> </ul> <p>Equipment</p> <ul style="list-style-type: none"> <li>Vehicles and maintenance</li> <li>Gas for deployment</li> </ul> <p>Technology</p> <ul style="list-style-type: none"> <li>Cell phones for team members to communicate among QRT and with participants</li> <li>Computer to maintain participant data</li> </ul> <p>Materials</p> <ul style="list-style-type: none"> <li>QRT resource packet</li> <li>Substance use resources and pamphlets</li> <li>Naloxone</li> <li>Bag to hold resources and materials</li> </ul> <p>Time</p> <ul style="list-style-type: none"> <li>QRT member deployment and debriefing</li> <li>Overdose incident tracking</li> </ul> <p>Partners</p> <ul style="list-style-type: none"> <li>County health department</li> <li>Local drug free coalition</li> <li>Community mental health (CMH)</li> <li>Police department (PD)</li> <li>Fire and EMS</li> </ul> | <ul style="list-style-type: none"> <li>Outreach to overdose survivors and their families in town</li> <li>For survivors from out of town, referral information to home department</li> <li>Outreach to jail for future outreach post-incarceration</li> <li>Provide resources, including local treatment services</li> <li>Provide naloxone to family members</li> <li>Link survivor and/or family to treatment services</li> </ul> | <ul style="list-style-type: none"> <li>Overdose survivors</li> <li>Survivors’ family and loved ones</li> </ul> | <ul style="list-style-type: none"> <li>Provide awareness of resources to overdose survivor and/or family members</li> <li>Decrease risk of future overdoses for overdose survivors</li> <li>Improve community relationships between overdose survivors and loved one and CMH, PD, and Fire &amp; EMS</li> <li>Increase social supports for overdose survivors and loved ones</li> </ul> | <ul style="list-style-type: none"> <li>Decrease stigma about substance use disorders and overdoses</li> <li>Increase community knowledge of resources and supports available for substance use disorders</li> </ul> |

**FIGURE 1** QRT logic model. The team’s logic model, including inputs, outputs, and outcomes. Inputs represent the resources used in the program, such as staff time, materials, and equipment. Outputs are the measurable results of the program’s efforts. Outcomes represent intended results of the team’s efforts

relations, and increase social supports for overdose survivors and members of their social network. The program’s long-term goals were to decrease stigma related to substance use disorder and overdose and to increase community knowledge of available supports and resources.

**QRT Implementation**

*Identification of Overdose Survivors and Family*

All individuals who survived an overdose and lived inside the police department’s jurisdiction (including the survivors’ family members) were eligible for the QRT’s services. Family was defined by the team as individuals identified by the survivor as family and those living with the survivor.

As shown in Figure 2, the Police Chief served as the point of contact for the team and deployed the team. Emergency dispatch, police, fire, and emergency medical services (EMS) had a mechanism to relay information to the Chief. Overdose survivors were identified in three ways. First, when police, fire, and/or EMS responded to an overdose, the information was entered into the city’s computer-aided dispatch (CAD) system. Second, if a resident overdosed in a nearby jurisdiction, emergency first responders in that jurisdiction could relay this information to the Chief if they were aware of the existence

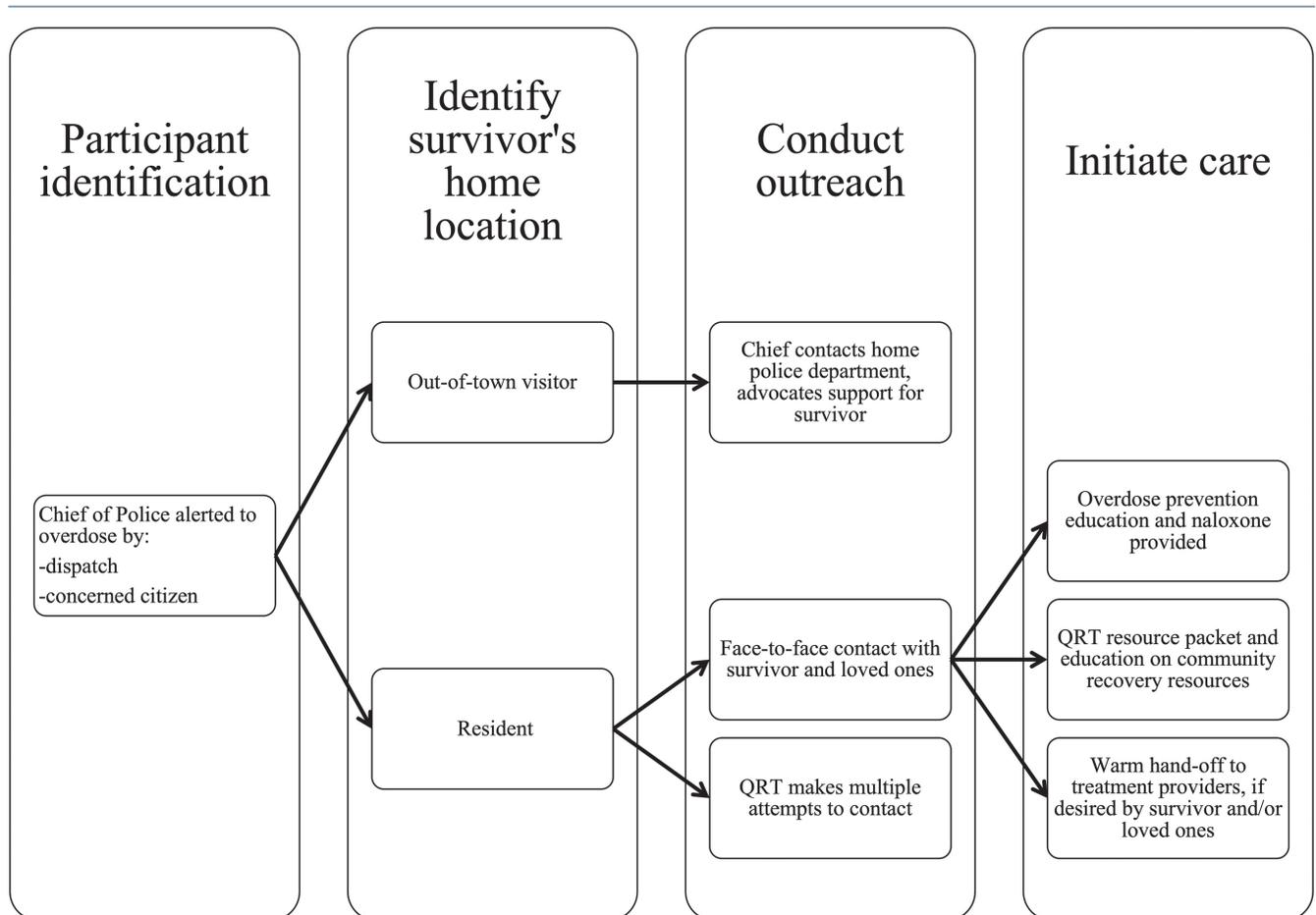
of the QRT. Third, an overdose survivor or concerned citizen could contact police, fire, or EMS to report an overdose that had already taken place. In all three instances, this information was then reported to the Chief. When someone who resided in another jurisdiction had an overdose in the town where the QRT was located, the Chief attempted to send this information to the home jurisdiction.

*Team Composition*

The outreach team was comprised of one LEO, one medic, and one clinician. Each participating agency had multiple staff on rotation who were willing and able to deploy, as needed. The time between the overdose event and the time that the team deployed was largely dependent upon the schedule of the clinician on duty since the clinician had regularly scheduled appointments.

*Team Outreach*

The team makes face-to-face contact with a survivor at their residence, typically during normal business hours, within 24 to 48 hours of the overdose event. Team members arrive in their respective uniforms in marked vehicles. They intend to demonstrate to the community that their community agencies care about overdose survivors and their family



**FIGURE 2** QRT deployment process. The co-response team deployment process includes how individuals are identified, how outreach occurs, and what services are offered by the team.

members. If the survivor is not present or does not return home immediately from the Emergency Department if they were transported following the overdose event, the team will engage with the survivor's family. Additionally, should the survivor become incarcerated, the Chief will stay in contact with the jail so that the team can contact the survivor within 24 to 48 hours following the person's release.

At the time of the last interview, the team had served eight women and six men. The average age of a participant was 33 years old. The QRT did not collect other demographic information.

### Roles of Team Members

**Role of the LEO:** The LEO's primary role is safety and support. The LEO initiates contact at the overdose survivors' residence by knocking on the door and explaining why the team is there. The LEO indicates that the purpose of the visit is because the survivor experienced an overdose and then describes the team's visit as a "social visit" and introduces the other members of the team. The LEO waits for the survivor to decide whether they would like to meet with the team and, if so, where they would like to meet with the team. If the LEO was on the scene of the survivor's drug overdose, the police officer may speak with the survivor and/or family member(s) about the overdose event.

**Role of the medic:** The medic serves in a supportive capacity and will address any medical issues and medication-related questions, as appropriate. Sometimes, the medic at the home visit was the responder who revived the survivor from their overdose. When appropriate, the EMT may talk to the survivor and/or family member(s) about the overdose event.

**Role of the clinician:** The clinician takes the lead for most of the visit and provides on-site assistance in linking the survivor and their family with recovery services, if they are interested. During the visit, the clinician tells participants about available recovery resources. If the participants are interested, the clinician can link them with recovery services. The clinician can also provide de-escalation and crisis intervention services at the home, if needed.

### Linkage to Care

At any time during the team's visit or anytime afterwards, a survivor and family could choose to start services with the clinician's mental health agency, the local Community Mental Health Center (CMHC). The clinician was responsible for referring participants and following up to ensure their agency made contact to start services. The team was unable to provide transportation to services. However, if an individual was linked to services through the local CMHC, the centre could provide transportation to some services. Follow-up from the team occurred as needed. The team could make additional visits to the residence at the request of the participant.

### Outreach Materials

At each visit, a bag of materials was provided to the survivor and their family with a dose of naloxone, a 16-page booklet with recovery resources and psychoeducation, and brochures from local treatment providers, including information on access to medications for opioid use disorder (MOUD). Naloxone was typically given to the family member, not the overdose survivor, if family was present.

### Funding and Resources

Each agency donated the time for its respective team members to participate in outreach as well as vehicles and other gear for outreach visits. Local organizations donated the printing for the recovery resources booklet and doses of naloxone.

### Implementation Strengths and Challenges

Team members identified several features of the QRT model that they felt facilitated implementation along with a set of factors that they felt impeded implementation. Factors that facilitated implementation included use of a person-centred and non-coercive approach, establishment of team role boundaries, multi-disciplinary collaboration, empathy, and buy-in across agencies and town leadership. Barriers included stigma among citizens, lack of an evaluation plan, difficulty providing outreach to individuals who have unstable housing, and difficulty following up with service agencies.

### Facilitating Features

**Person-centred and non-coercive:** There are no conditions or legal repercussions attached to the team visit and no expectations that the individuals and/or family members will access and utilize services because of the visit. Individuals choose whether, how, and where they interact with the team. If the overdose survivor refuses to interact with the QRT, the team will respect the wishes of the individual and leave the residence.

**Role boundaries:** Individuals on the team indicated that they were professionals who knew their jobs and their roles. They noted that they "stay in their lanes" and limit their activities to those that fall within their respective professional capacities. The clinician takes the lead on identifying the needs of the survivor and/or family members and provides referrals to services. Law enforcement and EMS provide supportive roles within their professional capacity.

**Multi-disciplinary and multi-agency collaboration:** As the medic commented, "I think just the point that people are willing to help is different. You've got police, fire and EMS, and social workers...that's a diverse crowd that shows up...I think it just shows [survivors] that people do care [and are] willing to help." Additionally, the Mayor indicated, "This is a community effort that we need to bring to the people."

**Empathy:** Multiple times, interviewees indicated that the biggest need is to humanize the individuals who are struggling with drug use disorders and overdose and demonstrate to community members that they care about the risks associated with substances use. The LEO stated, "It is our job to save lives [regardless of] whether others agree with a person's behaviours or choices." Further, team members expressed great meaning in the work they do. As the Chief stated,

If we can save one person, it's worth it...the whole [purpose] of this is saving that person. They deserve a whole lot better than what they are going through right now. I don't believe they chose to be this way. I think this is a disease....But the addiction messes up your brain. I don't think anybody out there wants to [be] like this, have a drug addiction. They want a better life, a normal life, whatever normal is. I think we are a small part of this solution by this little thing we do. We change this person's life over in town by just showing up by saying "hey we are here to help. Here's some information."

### Barriers to Implementation

**Difficulty contacting survivors:** Interviewees indicated that it can be difficult to contact people following an overdose because the individual moved or is otherwise difficult to find. Sometimes the team makes multiple repeat trips to attempt to contact survivors.

**No evaluation plan:** Despite operating in a small town with a low volume of cases, QRT members acknowledged the potential value of conducting a more robust evaluation in the future. The LMHP stated, “If you think about numbers, it probably wouldn’t be compelling. It probably wouldn’t be statistically significant. But every life matters. That’s compelling.” The team reflected that they would like to be able to track participants’ progress. Currently, they do not ask participants to sign a release of information, so they are unable to determine whether an individual successfully met with a provider to whom they were referred.

**Substance use stigma among community members:** At the conception of the QRT, the team conducted a community perception survey on attitudes about people who use drugs and people who overdose. The results demonstrated that the community held highly stigmatizing views about overdose and people who use drugs.

## DISCUSSION

This case study explored program implementation for one post-overdose outreach team in the rural Midwest that was largely based on an earlier QRT model operating in an urban setting (Colerain DPS, 2016). Preliminary evidence suggests that the model generalized well to a small rural setting and that the new QRT was able to develop a consistent implementation process that involved key agencies and leadership in the town and adequate resources.

Interviewees identified several features that they felt facilitated adoption and implementation of the QRT program. First, the program was designed to be person-centred, with emphasis placed on addressing the self-reported needs of overdose survivors and their family members—an approach that has been associated with higher levels of engagement and improved outcomes among individuals with substance use disorder (Friedrichs et al., 2016; Marchand et al., 2019). In addition to being person-centred, the approach taken by the QRT is non-coercive. There is no legal repercussion if a survivor refuses to meet with the team or refuses to accept services. Coercion into treatment is not associated with decreased substance use (Pilarinos et al., 2020) and, in some cases, is related to poorer outcomes in individuals who use drugs (Werb et al., 2016). The QRT also provides support and resources to family members of overdose survivors—a practice-based recommendation that has been widely applied in other post-overdose response programs (Bagley et al., 2019; Formica et al., 2021; White et al., 2021). Engaging family members in treatment services is associated with a reduction in substance use and issues related to substance use such as legal problems, housing instability, and employment instability (Ariss & Fairbairn, 2020).

Second, QRT outreach members had clearly defined roles and self-imposed boundaries that dictated their interactions with program participants to maximize the benefit to recipients of services and minimize unintended consequences.

This included attempts to minimize role conflicts that might contribute to or perpetuate stigmatizing attitudes or beliefs or feelings of compassion fatigue among team members based on their professional affiliation (Carroll et al., 2020; Kruis & Merlo, 2021). Specifically, interviewees reported that the clinician took the lead when interacting with overdose survivors and family members and that the LEO and medic supported the interaction as needed and as directed. This approach also helped to centre the outreach visit as a health and wellness encounter versus an enforcement-based encounter such that the health system and criminal legal system were not conflated.

Third, the QRT team relied on multi-disciplinary and multi-agency collaboration to broaden its scope of service—an approach that has been recommended over programs that rely exclusively on a single sector or narrow set of partners (HIDTA, 2018; NYSDOH, 2021; Yatsco et al., 2020). Inclusion of a paramedical professional as well as a licensed mental health practitioner on the QRT facilitates a menu of services ranging from provision of naloxone to linkages to MOUD providers to recovery support services. Leaving naloxone behind following an overdose and engaging the survivor’s support system has been associated with increased connection to follow-up services (Scharf et al., 2021). The initiation of MOUD is associated with improved treatment retention and long-term outcomes.

Lastly, the QRT team identified having empathy for people who use drugs and those who experienced an overdose as a pre-condition for participation on the team. Previous work has identified characteristics such as compassion and empathy, communication skills, patience, and a non-judgmental attitude as traits that QRT program developers value and prioritize when constructing teams (Formica et al., 2018). In addition to the perceived benefits of adopting an empathetic approach with direct recipients of services, QRT members also noted a desire to spread the idea that the town cares about people who use drugs and to share information about the risks associated with substances use, by word-of-mouth in the community. It is possible that positive word-of-mouth in the community and seeing evidence that QRT visits are not enforcement-based might help overcome some of the fears associated with contacting emergency services during an overdose event (Wagner et al., 2019; Wagner et al., 2021).

The team also identified several factors that it viewed as being barriers to successful implementation. The team conducts outreach at residences where survivors and family members live to bring services to individuals who might not otherwise access services on their own. However, the team reported that they sometimes struggle to reach people who have unstable housing. To enhance their services, the team might benefit from expanding to place-based outreach (HIDTA, 2018). Place-based or community outreach is a practice of conducting outreach in places in the community where people who use drugs or transient individuals may congregate (WHO, 2004).

Another limiting factor identified by interviews was the lack of a formal evaluation plan. Without an evaluation plan and mechanisms for evaluation, the team has been unable to measure the extent to which their goals are being met. For example, the team had no way to ensure whether an individual was linked to services other than the local community mental health center (CMHC). Developing an evaluation plan might

support and inform the development of a more consistent tracking system and identification of a core set of performance metrics and continuous quality improvement mechanisms.

To decrease stigma, the team wanted to show that they were present in the community, including using marked vehicles and uniforms for outreach visits. The team had evidence that substantial stigma existed among residents in the community toward individuals with substance use disorders and those who experienced an overdose. It is unclear whether this approach had the intended effect or whether it resulted in unintended consequences. The use of marked vehicles and professional uniforms has been flagged in practice-based guidance as contraindicated due to the potential breach of privacy of overdose survivors and family members (HIDTA, 2018; NYSDOH, 2021).

As currently organized, the QRT lacked guidance and participation from individuals with lived experience. The local program is driven by professionals and heavily influenced by law enforcement. To strengthen their model, the team might benefit from adding peer recovery support services or, at minimum, ongoing guidance from individuals who have experience with substance use disorder (Wagner et al., 2019). Including peer support is associated with improved outcomes for individuals with substance use disorders, including improved treatment retention, improved relationships with providers, and reduced relapses (SAMHSA, 2017).

### Limitations

This study explored implementation strengths and barriers to one QRT in the rural Midwest. The information gathered from five team members give us insight into their experiences but cannot be generalized to all post-overdose outreach teams. Further, study questions were limited to aspects of the team's implementation that were experienced as positive by team members.

### CONCLUSION

The findings from this case study indicate that a rural town was largely successful in adapting a QRT model from an urban setting. The size of the community appeared to play both supportive and limiting roles in its implementation. On the positive side, the program was able to centralize its point of contact and survivor identification process to a single individual (the Chief), and the low volume of cases made it feasible to review every incident for evidence of substance use disorder or overdose—including individuals who were incarcerated and released from the county jail. This level of scrutiny may not be possible within larger geographic settings with a greater number of incidents and actors on the data side. On the other hand, over-reliance on a single individual or a single professional position is potentially subject to disruptions during transitions in staffing. Similarly, the QRT was only able to deploy when it aligned with the schedule of the clinician on duty—which may be less of an issue in larger settings with more staffing available. The program in this study was proximal to a major metropolitan area, which facilitated the ability to make referrals for services that may not have been locally available through their CMHC. This may not be a feasible option in more rural, remote, or frontier areas—possibly necessitating the use of telemedicine partnerships and

other facilitative distance-based technologies. Future studies should examine rural QRT programs implemented across multiple settings to better understand the factors associated with successful implementation and the challenges these programs experience in comparison with programs in larger suburban and urban areas.

### ACKNOWLEDGEMENTS

During data collection, the first author was employed as a contractor for the Indiana High Intensity Drug Trafficking Area's Overdose Response Strategy. In May 2021, her contract was transferred to the CDC Foundation. No grant funds were used to carry out this study. This research was supported by funding from the ONDCP, HIDTA Program, CFDA#95.001.

### CONFLICT OF INTEREST DISCLOSURES

The authors declare that they have no conflicts of interest.

### AUTHOR AFFILIATIONS

\*Indiana University School of Social Work, Indianapolis, IN, USA;  
 †Social Science Research and Evaluation, Inc., Lincoln, MA, USA.

### REFERENCES

- Ariss, T., & Fairbairn, C. E. (2020). The effect of significant other involvement in treatment for substance use disorders: A meta-analysis. *Journal of Consulting and Clinical Psychology, 88*(6), 526–540. <https://doi.org/10.1037/ccp0000495>
- Bagley, S. M., Schoenberger, S. F., Wayne, K. M., & Walley, A. Y. (2019). A scoping review of post opioid-overdose interventions. *Preventive Medicine, 128*, 105813. <https://doi.org/10.1016/j.ypmed.2019.105813>
- Bureau of Justice Assistance (BJA). (2021). *Report of the National Survey to Assess First Responder Deflection Programs in response to the opioid crisis* (300955). <https://www.ojp.gov/library/publications/report-national-survey-assess-first-responder-deflection-programs-response>
- Carroll, J. J., Mital, S., Wolff, J., Noonan, R. K., Martinez, P., Podolsky, M. C., Killorin, J. C., & Green, T. C. (2020, Dec. 1). Knowledge, preparedness, and compassion fatigue among law enforcement officers who respond to opioid overdose. *Drug and Alcohol Dependence, 217*, 108257. <https://doi.org/10.1016/j.drugalcdep.2020.108257>
- Centers for Disease Control and Prevention (CDC). (2020). *Underlying cause of death 1999–2018*. Retrieved from: <https://wonder.cdc.gov>
- Centers for Disease Control and Prevention (CDC). (2022a). *Drug overdose mortality by state*. Retrieved March 28, 2022, from: [https://www.cdc.gov/nchs/pressroom/sosmap/drug\\_poisoning\\_mortality/drug\\_poisoning.htm](https://www.cdc.gov/nchs/pressroom/sosmap/drug_poisoning_mortality/drug_poisoning.htm)
- Centers for Disease Control and Prevention (CDC). (2022b). *Maps & graphs of U.S. drug overdose death rates*. Retrieved March 28, 2022, from: <https://www.cdc.gov/drugoverdose/deaths/index.html>
- Coghlan, A. T., Preskill, H., & Tzavaras Catsambas, T. (2003). An overview of appreciative inquiry in evaluation. *New Directions for Evaluation, 2003*(100), 5–22. <https://doi.org/https://doi.org/10.1002/ev.96>
- Colerain Township Department of Public Safety (DPS). (2016). *Quick response team: One community's response to the heroin/opiate epidemic*. Retrieved March 27, 2022, from: <https://cover2.org/wp-content/uploads/2016/12/2016-Quick-Response-Team-Summit-County-OH.pptx>
- Darke, S., Mills, K. L., Ross, J., & Teesson, M. (2011). Rates and correlates of mortality amongst heroin users: Findings from the Australian Treatment Outcome Study (ATOS), 2001–2009. *Drug and Alcohol Dependence, 115*(3), 190–195. <https://doi.org/10.1016/j.drugalcdep.2010.10.021>
- Davoust, M., Grim, V., Hunter, A., Jones, D. K., Rosenbloom, D., Stein, M. D., & Drainoni, M. L. (2021). Examining the implementation of

- police-assisted referral programs for substance use disorder services in Massachusetts. *International Journal of Drug Policy*, 92, 103142. <https://doi.org/10.1016/j.drugpo.2021.103142>
- Donnelly, E. A., Stenger, M., Streisel, S., O'Connell, D. J., & Arnold, J. (2021). Addressing opioid misuse: Hero Help as a recovery and behavioural health response. *Journal of Community Safety and Well-Being*, 6(3). <https://doi.org/10.35502/jcswb.191>
- Formica, S. W., Apsler, R., Wilkins, L., Ruiz, S., Reilly, B., & Walley, A. Y. (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. <https://www.science-direct.com/science/article/abs/pii/S095539591830001X?via%3Dihub>
- Formica, S. W., Waye, K. M., Benintendi, A. O., Yan, S., Bagley, S. M., Beletsky, L., Carroll, J. J., Xuan, Z., Rosenbloom, D., Apsler, R., Green, T. C., Hunter, A., & Walley, A. Y. (2021). Characteristics of post-overdose public health–public safety outreach in Massachusetts. *Drug and Alcohol Dependence*, 219, 108499. <https://doi.org/10.1016/j.drugalcdep.2020.108499>
- Friedrichs, A., Spies, M., Härter, M., & Buchholz, A. (2016). Patient preferences and shared decision making in the treatment of substance use disorders: A systematic review of the literature. *PLOS One*, 11(1), e0145817. <https://doi.org/10.1371/journal.pone.0145817>
- Havens, J. R., Oser, C. B., Knudsen, H. K., Lofwall, M., Stoops, W. W., Walsh, S. L., Leukefeld, C. G., & Kral, A. H. (2011). Individual and network factors associated with non-fatal overdose among rural Appalachian drug users. *Drug and Alcohol Dependence*, 115(1–2), 107–112. <https://doi.org/10.1016/j.drugalcdep.2010.11.003>
- Health Resources and Services Administration (HRSA). (2018). *List of rural counties and designated eligible census tracts in metropolitan counties*. Retrieved from: <https://www.hrsa.gov/sites/default/files/hrsa/ruralhealth/resources/forhpeligibleareas.pdf>
- High Intensity Drug Trafficking Areas (HIDTA). (2018). *Public safety-led linkage to care programs in 23 states: The 2018 overdose response strategy cornerstone project*. Retrieved from: [https://www.hidtaprogram.org/pdf/cornerstone\\_2018.pdf](https://www.hidtaprogram.org/pdf/cornerstone_2018.pdf)
- Ho, J. Y., & Hendi, A. S. (2018). Recent trends in life expectancy across high income countries: Retrospective observational study. *BMJ*, 362, k2562. <https://doi.org/10.1136/bmj.k2562>
- Kruis, N. E., & Merlo, A. V. (2021). A preliminary assessment of stigma in law enforcement officers' responses to opioid overdoses. *Journal of Drug Issues*, 51(2), 301–322. <https://doi.org/10.1177/0022042620974076>
- Larochelle, M. R., Bernstein, R., Bernson, D., Land, T., Stopka, T. J., Rose, A. J., Bharel, M., Liebschutz, J. M., & Walley, A. Y. (2019). Touchpoints – Opportunities to predict and prevent opioid overdose: A cohort study. *Drug and Alcohol Dependence*, 204, 107537. <https://doi.org/10.1016/j.drugalcdep.2019.06.039>
- Mack, K. A., Jones, C. M., & Ballesteros, M. F. (2017). Illicit drug use, illicit drug use disorders, and drug overdose deaths in metropolitan and non-metropolitan areas — United States. *MMWR Surveillance Summaries*, 66(SS-19), 1–12. <https://doi.org/http://dx.doi.org/10.15585/mmwr.ss6619a1>
- Marchand, K., Beaumont, S., Westfall, J., MacDonald, S., Harrison, S., Marsh, D. C., Schechter, M. T., & Oviedo-Joekes, E. (2019). Conceptualizing patient-centered care for substance use disorder treatment: Findings from a systematic scoping review. *Substance Abuse Treatment, Prevention, and Policy*, 14(1), 37. <https://doi.org/10.1186/s13011-019-0227-0>
- Mason, R., Wolf, M., O'Rinn, S., & Ene, G. (2017). Making connections across silos: Intimate partner violence, mental health, and substance use. *BMC Women's Health*, 17(1), 29. <https://doi.org/10.1186/s12905-017-0372-4>
- New York State Department of Health (NYSDOH). (2021). *Position paper on community strategies for post-opioid overdose interventions*. Retrieved from: [https://www.health.ny.gov/diseases/aids/consumers/prevention/docs/post\\_od\\_position\\_paper.pdf](https://www.health.ny.gov/diseases/aids/consumers/prevention/docs/post_od_position_paper.pdf)
- Pilarinos, A., Barker, B., Nosova, E., Milloy, M. J., Hayashi, K., Wood, E., Kerr, T., & DeBeck, K. (2020). Coercion into addiction treatment and subsequent substance use patterns among people who use illicit drugs in Vancouver, Canada. *Addiction*, 115(1), 97–106. <https://doi.org/10.1111/add.14769>
- Sawyer, J. L., Shrestha, S., Pustz, J. C., Gottlieb, R., Nichols, D., Van Handel, M., Lingwall, C., & Stopka, T. J. (2021). Characterizing opioid-involved overdose risk in local communities: An opioid overdose vulnerability assessment across Indiana, 2017. *Preventive Medicine Reports*, 24, 101538. <https://doi.org/10.1016/j.pmedr.2021.101538>
- Scharf, B. M., Sabat, D. J., Brothers, J. M., Margolis, A. M., & Levy, M. J. (2021). Best practices for a novel EMS-based naloxone leave behind program. *Prehospital Emergency Care*, 25(3), 418–426. <https://doi.org/10.1080/10903127.2020.1771490>
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2017). *Peers supporting recovery from substance use disorders*. Retrieved from: [https://www.samhsa.gov/sites/default/files/programs\\_campaigns/brss\\_tacs/peers-supporting-recovery-substance-use-disorders-2017.pdf](https://www.samhsa.gov/sites/default/files/programs_campaigns/brss_tacs/peers-supporting-recovery-substance-use-disorders-2017.pdf)
- Swann, W. L., Kim, S., Kim, S. Y., & Schreiber, T. L. (2021). Urban–rural disparities in opioid use disorder prevention and response activities: A cross-sectional analysis. *The Journal of Rural Health*, 37(1), 16–22. <https://doi.org/10.1111/jrh.12491>
- U.S. Census Bureau. (2022). *QuickFacts population estimates*. Retrieved from: <https://www.census.gov/quickfacts/fact/table/US/PST045221>
- Valentini, C. A., & Jayawardhana, J. (2019). Drug overdose deaths in Georgia: Impact of rural versus non-rural counties. *Journal of Pharmaceutical Health Services Research*, 10(3), 341–346. <https://doi.org/https://doi.org/10.1111/jphs.12296>
- Wagner, K. D., Harding, R. W., Kelley, R., Labus, B., Verdugo, S. R., Copulsky, E., Bowles, J. M., Mittal, M. L., & Davidson, P. J. (2019). Post-overdose interventions triggered by calling 911: Centering the perspectives of people who use drugs (PWUDs). *PLOS One*, 14(10), e0223823. <https://doi.org/10.1371/journal.pone.0223823>
- Wagner, K. D., Koch, B., Bowles, J. M., Verdugo, S. R., Harding, R. W., & Davidson, P. J. (2021). Factors associated with calling 911 for an overdose: An ethnographic decision tree modeling approach. *American Journal of Public Health*, 111(7), 1281–1283. <https://doi.org/10.2105/AJPH.2021.306261>
- Werb, D., Kamarulzaman, A., Meacham, M. C., Rafful, C., Fischer, B., Strathdee, S. A., & Wood, E. (2016, Feb). The effectiveness of compulsory drug treatment: A systematic review. *International Journal of Drug Policy*, 28, 1–9. <https://doi.org/10.1016/j.drugpo.2015.12.005>
- 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. <https://doi.org/10.1007/s12103-021-09625-w>
- World Health Organization (WHO). (2004). *Evidence for action: Effectiveness of community-based outreach in preventing HIV/AIDS among injecting drug users*. Retrieved from: [https://www.who.int/hiv/pub/prev\\_care/en/evidenceforactioncommunityfinal.pdf](https://www.who.int/hiv/pub/prev_care/en/evidenceforactioncommunityfinal.pdf)
- Yatsco, A. J., Champagne-Langabeer, T., Holder, T. F., Stotts, A. L., & Langabeer, J. R. (2020). Developing interagency collaboration to address the opioid epidemic: A scoping review of joint criminal justice and healthcare initiatives. *International Journal of Drug Policy*, 83, 102849. <https://doi.org/10.1016/j.drugpo.2020.102849>
- Yin, R. K. (2017). *Case study research and applications: Design and methods*. (6th ed.). SAGE Publications, Inc.