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Recovery Opioid Overdose Team (ROOT) Pilot Program Evaluation: A Community-Wide Post-Overdose Response Strategy

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Abstract

Background: Effective interventions for overdose survivors are needed in the emergency departments (EDs). One promising model is the use of peer recovery coaches to engage with survivors in EDs, followed by partnering with community case management navigators to connect survivors to recovery support and treatment services. This paper describes the evaluation of a pilot program, the Recovery Opioid Overdose Team (ROOT), a warm hand-off system that links survivors to treatment services post-ED discharge.

Methods: The ROOT program is composed of a peer recovery coach who is in long-term recovery, and a case management navigator who specializes in mental health care and provides guidance for accessing community services. After an overdose reversal, law enforcement contacts a county 24/7 Crisis Team, who then notifies ROOT. The peer recovery coach engages with the survivor in the ED, and then follow up continues with the case management navigator and the peer recovery coach for up to 90 days post-ED discharge. Retrospective chart reviews were conducted to evaluate ROOT in two Midwest EDs from September 2017 through March 2019.

Results: Of the 122 referrals, 77.0% (n=94) of the survivors initially engaged with ROOT in the ED or in the community. The remaining 23.0% (n=28) left the ED against medical advice or

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AUTHOR CONTRIBUTIONS

Dr. Dahlem contributed to research conception and design, interpretation of the result, writing, and revisions. Ms. Scalera contributed to research conception design, collection of data, funding requisition, writing, and revision. Dr. Ploutz-Snyder contributed to data analysis, interpretation of results, writing, and revision. Ms. Anderson contributed to research conception design, collection of data, writing, and revision. Ms. Tasker contributed to collection and interpretation of data, writing, and revision. Dr. McCabe contributed to interpretation of results, writing, and revisions. Dr. Boyd contributed to overall guidance of research design, interpretation of results, writing, and revisions.

were unengaged. The majority of overdose survivors were male (63.9%; n=78), White (43.4%; n=53), had housing (80.2%; n=48), and access to transportation (48.4%; n=59). From the 122 referrals, 33.6% (n=41) received ongoing treatment services (n=20 outpatient, n=17 residential, n=2 detoxification facility, n=1 recovery housing, n=1 medication treatment for opioid use disorder), 2.5% (n=3) were incarcerated, 2.5% (n=3) were deceased, and 61.5 % (n=75) declined services.

Conclusions: The ROOT, a community-wide coordinated program in the EDs, shows promise in linking overdose survivors to recovery support and treatment services post-overdose.

Keywords

Peer recovery; opioid overdose; law enforcement; emergency department; naloxone; case management; mental illness

Introduction

In 2018, drug overdoses contributed to over 67,000 American deaths.[1] However, not all overdoses result in death, and for those who experience a nonfatal overdose, the emergency department (ED) is one of the key access points to engage and connect overdose survivors to community services.[2] From July 2016 to September 2017, ED visits for overdoses increased by 30% nationally, with a 79% increase in the Midwest.[3] Frequent ED visits were associated with higher likelihood of subsequent hospitalizations and near-fatal events.[4] Thus, effective, timely, and community-wide coordinated secondary prevention interventions—occurring after an overdose has been reversed by naloxone—are urgently needed in the ED.

One rapidly adopted approach is the use of peer recovery coaches to engage and establish ongoing relationships with overdose survivors in the ED setting.[5–10] Peer recovery coaches provide emotional, informational, instrumental, and affiliated support.[11] Systematic reviews have shown positive evidence for peer recovery coaches on substance use outcomes[12,13] such as reducing substance use,[14,15] relapse rates,[16] ED visits,[14] and re-hospitalization rates,[17] as well as increasing treatment retention.[18,19]

Prior studies in urban, suburban, and rural EDs have shown that peer recovery coaches were able to achieve high levels of engagement with overdose survivors and people at risk of overdose in EDs, with subsequent referrals to inpatient and outpatient substance use disorder treatment.[6,8,10,20] Although these studies show that peer recovery coaches in EDs are feasible, acceptable, and able to engage with people at risk for an opioid overdose, limited research exists on the type and composition of peer engagement and case management models that are most effective. A peer recovery coach, focused on connecting with the survivor, allows for an easier transition to a case manager, who delivers case management services using a strengths-based approach.[21] The use of case management navigators in the ED may reduce ED visits[22] and help improve clinical and social outcomes among frequent users of the ED.[23]

In an observational study, intensive case management improved psychosocial factors and engagement with care for people with severe mental illness and substance use

disorders.[24] Furthermore, in a systematic review of case management interventions for people with substance use disorders, most studies demonstrated that connection with—and among—healthcare providers seemed to improve treatment adherence along with overall functioning.[25]

To date, one study has described the partnership between peer recovery coaches and case management navigators to engage with survivors in the ED post-overdose.[26] However, the authors did not report on project outcomes. Toward the goal of gaining new insights into a program with peer recovery coaches and case management navigators, we evaluated a pilot program, the Recovery Opioid Overdose Team (ROOT), a warm hand-off program that links overdose survivors to support and treatment services post-ED discharge. Due to grant stipulations, the ROOT program only included opioid overdoses.

Methods

Setting and Study Population

From 2012 to 2017, the rate of opioid overdose death in Washtenaw County increased from 7.12 to 16.86 deaths per 100,000 people.[27] Recognizing the need to improve linkages to treatment for overdose survivors after an overdose reversal, the ROOT was developed under the leadership of the authors (MS, GA, and CHD). The ROOT program involved coordination of care with a county 24/7 Crisis Team, local law enforcement agencies, a substance use disorder treatment facility, a community mental health organization, and two local EDs. The two EDs were level one trauma hospitals that serve 85,000–104,000 patients a year.

Intervention

The goal of the ROOT was to engage with overdose survivors in the EDs and link them to treatment and recovery support services for up to 90 days post-ED discharge. The ROOT team was composed of a certified peer recovery coach with long-term recovery experience and a case management navigator who guides survivors to treatment and recovery services. The case management navigator also specialized in mental health care as many people who use drugs have a co-occurring mental health illness.[28,29] The case management navigator had a bachelor's degree in a mental health-related field with a limited license and community case management experience. The peer recovery coach had at least two years in recovery and state certification as a peer recovery coach along with a certification from the Connecticut Community for Addiction Recovery. The full-time certified peer recovery coach was deployed on a flexible schedule to meet the demand for overdose calls. The case management navigator was assigned within 24 hours of the overdose reversal.

The peer recovery coach and case management navigator worked together for the benefit of the survivor. The case management navigator's purpose was to help the survivor identify barriers that limit their access to treatment. The case management navigator conducted an intake assessment to identify social, mental, and physical needs of the survivor and helped the survivor access social services (e.g., housing, insurance, utilities, cell phone). The peer recovery coach provided support for the survivor and helped the survivor integrate into

the recovery community. The peer recovery coach, as a person who formerly used drugs, was able to identify with the survivor and encourage a contemplative move towards change through trust-building. By connecting with the survivor, the peer recovery coach and the case management navigator worked together to determine a plan of care.

Procedure

Originally, law enforcement contacted the county 24/7 Crisis Team at the time of an overdose, who then notified and activated the ROOT. At the scene of an overdose, law enforcement is usually the first responder. However, as the ROOT was being implemented, some law enforcement agencies were not notifying the 24/7 Crisis Team. Thus, the protocol was modified and ED physicians, nurses, and social workers were educated about the ROOT. It was these professionals who contacted the 24/7 Crisis Team if law enforcement failed to do so. In the ED, a peer recovery coach presented within one hour after the ROOT was notified to engage with the survivor and stayed with the survivor as long as they were welcome (Figure One). Once the peer recovery coach engaged with the survivor, an initial screening was completed: (1) demographic information; (2) the Adapted Recovery Capital Scale; (3) an assessment for safe housing, transportation, follow-up appointments, and up to three phone numbers; and (4) the release of information. However, the focus was not on completing the screening assessments, but establishing enough trust that was sufficient to connect with the survivor post-ED discharge. Therefore, the most critical information collected was how to contact the survivor in the community after discharge.

The peer recovery coach and case management navigator attempted to contact each survivor in the community 24 to 48 hours post-ED discharge for follow-up care that included: the initiation of a recovery plan, the provision of support (e.g., housing, transportation, clothing), and a referral to treatment and recovery support services. If the survivor continued to engage with ROOT, the recovery support services were tailored to the person. The list of recovery support services could include obtaining insurance, food stamps, clothing, household items, mental and medical health services, substance use disorder treatment options, housing, phones, and identification cards. If the survivor did not engage, ROOT conducted follow-up phone calls for 24 to 48 hours or made a face-to-face outreach attempt until the person requested not to be contacted or failed to respond. The present evaluation study of ROOT was deemed exempt by University of Michigan Institutional Review Board.

Measures

All data were collected using a retrospective chart review and included several demographic variables: sex, race/ethnicity, age, housing status, history of mental illness, and access to transportation.

ROOT process variables included: (1) who initiated the ROOT call and in which ED; (2) did a face-to-face encounter occur within 5 hours of the ROOT referral (yes/no); (3) was a recovery plan developed within the first week of ED discharge (yes/no); and (4) the number of in-person outreach attempts and phone calls. We defined initial ROOT engagement as any face-to-face interaction or telephone conversation with the survivor in the ED or in the community. Outcome variables included: (1) outpatient services; (2) residential treatment;

(3) detoxification; (4) recovery housing; (5) medication treatment for opioid use disorder; (6) incarceration; (7) declined ROOT services; (8) left against medical advice; and (9) death.

Data analysis

Statistical analyses were conducted using Stata/SE software version 16.0 (StataCorp LLC, College Station, Texas, USA) with an emphasis on descriptive statistics.

Review

Between September 2017 and March 2019, 122 nonfatal overdose cases were referred to ROOT. The majority were male (63.9%), White (43.4%), between the ages of 19–39 years old (79.4%), had access to housing (80.2%), had a history of mental illness (54.9%), and had access to transportation (48.4%). (Table 1).

The ROOT referrals were initiated largely by law enforcement officers (47.5%; n=58) and social workers (39.3%; n=48), with the remaining referrals by nurses (4.9%; n=6), physicians (4.1%; n=5), and unknown (4.1%; n=5). The majority (67.2%; n=82) of referrals were seen at one of the two hospital systems. Face-to-face encounters with ROOT occurred within 5 hours of the referral for 69.7% (n=85) of the survivors. Within a week of ED discharge, 81.1% (n=99) did not develop a recovery plan. The range of face-to-face interaction included 1 to 5 times for any given survivor, with 26 (21.3%) survivors receiving at least one face-to-face interaction post-ED discharge. The range of phone calls was 0–39 times per survivor with a median of two phone calls for any given survivor.

Out of 122 referrals received, 77.0% (n=94) of the survivors engaged with ROOT in the ED or in the community, and 23.0% (n=28) either left the ED against medical advice or were unengaged. To further delineate the 122 referrals received, 64.8% (n=79) of the survivors engaged with the peer recovery coach in the ED; 11.5% (n=14) were referred to ROOT, but left the ED against medical advice and were unengaged in the ED or community; 11.5% (n=14) did not leave against medical advice, but were unengaged in the ED or community; 7.4% (n=9) were engaged in the community; and 4.9% (n=6) left against medical advice, but were engaged with ROOT prior to leaving against medical advice. Thus, 16.4% (n=20) of the survivors left against medical advice. From the survivors who initially engaged with ROOT (n=94), follow-up interaction through a phone call or a face-to-face visit was successful for 48.9% (n=46) of the survivors.

Of the 122 referrals, 33.6% (n=41) received ongoing treatment services (n=20 outpatient, n=17 residential, n=2 detoxification facility, n=1 recovery housing, n=1 medication treatment for opioid use disorder), 2.5% were incarcerated (n=3), 2.5% were deceased (n=3), and 61.5 % (n=75) declined services.

Conclusions

To our knowledge, this is the first study to report outcomes for a community-wide coordinated service that used a team of peer recovery coaches and a case management navigator to connect overdose survivors to recovery support. Our pilot evaluation

demonstrated that the ROOT, a program that extends the peer recovery coach model by including a case management navigator, was able to connect many overdose survivors to treatment services. Out of 122 referrals received by ROOT, 33.6% received some form of treatment services. As in other studies, we found that providing both a peer recovery coach and a case management navigator for each overdose survivor is feasible and often connects survivors from the ED to important services in the community.[6,8,20,26]

Interestingly, only one person chose to receive medication treatment for opioid use disorder. We do not know why so few sought this treatment over other treatments, since medication treatment for opioid use disorder is highly efficacious. Possible explanations could be stigma surrounding medication treatment for opioid use disorder treatment among people who use drugs[30,31] and the limited number of providers for medication treatment for opioid use disorder available in the county during the evaluation period.

Different types of post-overdose community interventions have been implemented across the US, but limited evidence exists on the team composition that is most effective, as well as the timing of intervention and frequency of follow-ups.[32] Anecdotal evidence from the ROOT program showed that including a case management navigator who has a deeper understanding of social services was critical to engaging the survivors with the community. The peer recovery coach with their “lived experience” was also important in identifying with the overdose survivor and motivating them to engage in treatment. Additional studies are needed to investigate if specific team compositions are more effective than others in engaging with survivors’ post-overdose reversals.

Although the ROOT pilot program shows promise, problems exist. Due to implementation barriers, the ROOT program received only one-third of non-fatal overdose referrals during the study period. In addition, overdose survivors who did not go to the ED were not referred because initial release agreements with ambulance services were not obtained. Both EDs had ongoing naloxone distribution programs, but we did not collect information on whether or not the individual received overdose education and naloxone upon discharge. In addition, we did not have a systematic follow-up procedure and thus, some details on follow-up activities were not captured. These included the type of social and recovery support services received, location of follow-up encounters, and referral to syringe access services. The data collection was limited by a retrospective chart review and thus, substance use disorder treatment history was not collected. In addition, the peer recovery coach and case management navigator were from two different agencies that had limited access to each other’s records. In the future when evaluating programs such as ROOT, better survivor data needs to be collected and could include: history of and current substance use and substance use treatment experiences; history of and current mental illness; prior overdose history; and use of medication treatment for opioid use disorder. Better process data must also be collected that includes the length of time to establish a recovery plan. Future studies should also include a larger sample and conduct an evaluation with a more rigorous design. Despite the limitations, our study describes an innovative, promising model using peer recovery coaches and case management navigators to connect overdose survivors to treatment and recovery support services post-overdose.

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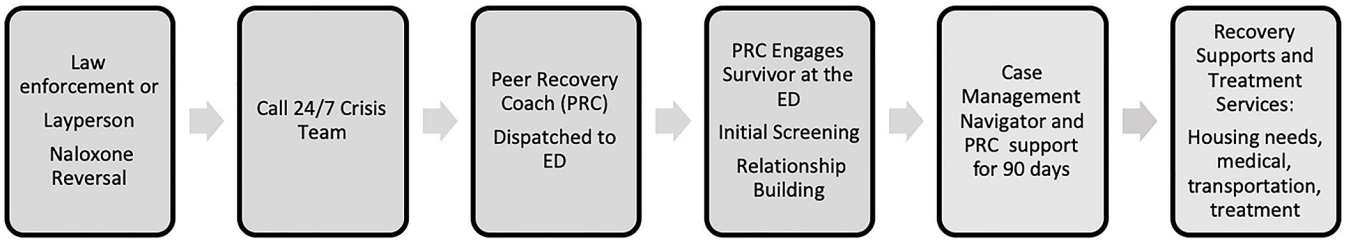

Figure 1.
Recovery Opioid Overdose Team Process

Table 1:

Demographic Characteristics

	N	%
Sex		
Male	78	63.9
Female	44	36.1
Race/Ethnicity		
African American	12	9.8
Arab American	2	1.6
Asian	1	0.8
Hispanic	1	0.8
White	53	43.4
Missing	53	43.4
Age in Years		
19 – 29	51	41.8
30 – 39	46	37.6
40 – 49	9	7.4
50 – 59	8	6.6
60 – 69	8	6.6
Housing in the Past 28 Days		
House	48	39.3
Living with others	41	33.6
Structured living	7	5.7
Shelter	2	1.6
On the street	14	11.5
Missing	10	8.2
Mental Illness History		
Yes	67	54.9
No	55	45.1
Access to Transportation		
Yes	59	48.4
No	42	34.4
Missing	21	17.2