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Implementing peer recovery services for overdose prevention in Rhode Island: An examination of two outreach-based approaches

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HIGHLIGHTS

- Peer Recovery Specialists are part of the overdose response in Rhode Island
- Specialists provide overdose outreach to emergency departments (ED) and communities
- From July 2016-June 2017, ED-based Peer Recovery Specialists had 1329 contacts
- Of the ED contacts, 89% had naloxone training and 87% agreed to specialist engagement post-ED
- In communities, specialists gave 854 naloxone kits from July 2016-June 2017

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ABSTRACT

Background: Rhode Island has the tenth highest rate of accidental drug overdose deaths in the United States. In response to this crisis, Anchor Recovery Center, a community-based peer recovery program, developed programs deploying certified Peer Recovery Specialists to emergency departments (AnchorED) and communities with high rates of accidental opioid overdoses (AnchorMORE).

Objectives: The purpose of this paper is to describe AnchorED and AnchorMORE's activities and implementation process.

Methods: AnchorED data were analyzed from a standard enrollment questionnaire that includes participant contact information, demographics, and a needs assessment. The AnchorED program outcomes include number of clients enrolled, number of naloxone training sessions, and number of referrals to recovery and treatment services. Overdose deaths and naloxone distribution through AnchorMORE were mapped using Tableau software.

Results: From July 2016–June 2017, AnchorED had 1329 contacts with patients visiting an emergency department for reported substance misuse cases or suspected overdose. Among the contacts, 88.7% received naloxone training and 86.8% agreed to continued outreach with a Peer Recovery Specialist after their ED discharge. Of those receiving peer recovery services from the Anchor Recovery Community Center, 44.7% (n = 1055/2362) were referred from an AnchorED contact. From July 2016–June 2017, AnchorMORE distributed 854 naloxone kits in high-risk communities and provided 1311 service referrals.

Conclusion: These findings indicate the potential impact peer recovery programs may have on engaging high-risk populations in treatment, overdose prevention, and other harm reduction activities. Additional research is needed to evaluate the reach of implementation and services uptake.

*Abbreviations:*Emergency Departments, ED

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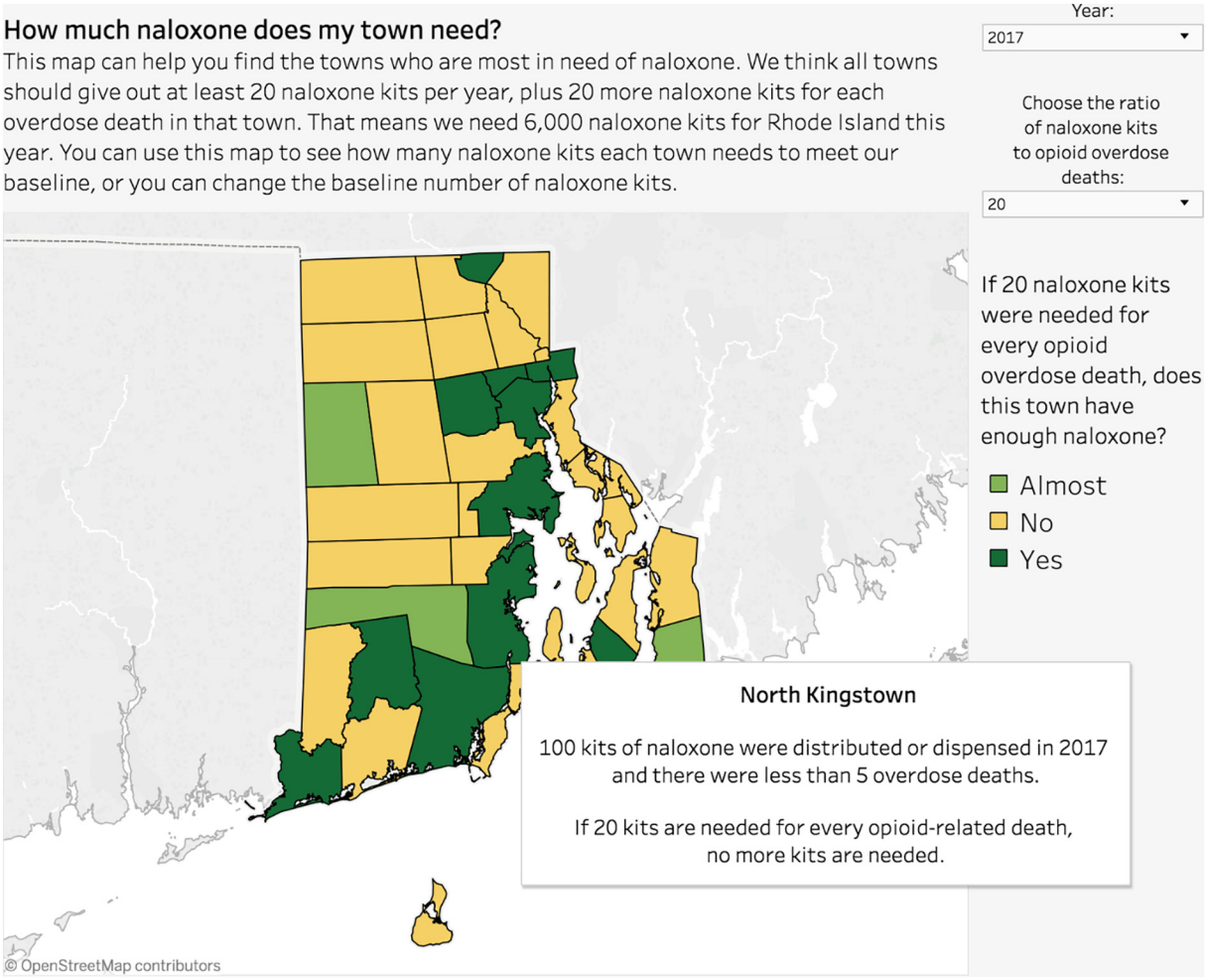

Fig. 1. Naloxone distribution tool.

1. Introduction

The United States (US) is facing an unprecedented opioid overdose crisis. Fatal overdoses have increased more than fivefold in the last two decades and are a leading cause of death for those under the age of 50 (Centers for Disease Control and Prevention, 2017). In 2016, on average 115 people per day died from an opioid-related overdose (Centers for Disease Control and Prevention, 2018a). Rhode Island has among the highest rate of illicit drug use and the tenth highest rate of accidental drug overdose mortality in the US (Substance Abuse and Mental Health Services Administration, 2017a; Hedegaard, Warner, & Miniño, 2017). To respond to this growing epidemic, state leaders convened an overdose task force in 2015, which endorsed a multi-component strategic plan to reduce overdose mortality rates (Rhode Island Governor's Overdose Prevention and Intervention Task Force, 2015). One component of the strategic plan focused on the expansion of peer recovery services by Certified Peer Recovery Specialists for individualized addiction recovery support and treatment navigation (Rhode Island Governor's Overdose Prevention and Intervention Task Force, 2015).

Certified Peer Recovery Specialists, also known as "recovery coaches", provide experiential, non-clinical support to people living with substance use disorder who are seeking recovery assistance (Bassuk, Hanson, Greene, Richard, & Laudet, 2016; Reif et al., 2014). Peer Recovery Specialists have lived experience with addiction and recovery, allowing for guidance that may not be typically found in medical settings (Bassuk et al., 2016; Reif et al., 2014). Peer Recovery Specialists offer support for personal goal setting and navigating the recovery process, including steps to improve their "accrual" of recovery capital–strengths such as their health, wellness, or quality of life (Kelly & Hoeppner, 2015). They also provide referrals and support for treatment, housing, employment, drug court proceedings, and probation (Substance Abuse and Mental Health Services Administration, 2009).

Peer-based support services have been proven to be feasible, acceptable, and established components in programs working to reduce psychiatric-based rehospitalizations for those with multiple previous psychiatric hospitalizations (Sledge et al., 2011), to increase HIV and hepatitis C virus prevention and treatment adherence (Broadhead et al., 2002; Grebely et al., 2010; Norman et al., 2008; Purcell et al., 2007), and as a risk reduction technique among people who use drugs, such as decreasing syringe sharing practices (Purcell et al., 2007). Further, peer support groups typically exist as a component to addiction recovery programs and are found to be correlated to either a reduction in substance use (Tracy et al., 2012), or increased addiction treatment adherence (Huselid, Self, & Gutierres, 1991; Tracy et al., 2012). While common in these settings, the state of the science on peer recovery services for patients with substance use disorder in emergency departments (ED) and through community-based outreach is more limited, and few studies have examined the efficacy and validity of these services (Bassuk et al., 2016; Myrick & Del Vecchio, 2016; Reif et al., 2014; Tracy & Wallace, 2016). A 2016 systematic review found only nine peer reviewed articles regarding substance use and peer recovery services, three of which were randomized control trials (Bassuk et al., 2016).

The deployment of Peer Recovery Specialists in targeted settings, like that of emergency departments and in high-burden neighborhoods,

Table 1
Characteristics of AnchorED contacts and outreach activities, July 2016 to June 2017.

	n(%)[a] *N* = 1392
Gender	
Female	412 (29.6)
Male	962 (69.1)
Age	
< 25	124 (8.9)
25–39	545 (39.2)
40–64	634 (45.5)
65 +	53 (3.8)
Race/Ethnicity	
African American	61 (4.4)
Hispanic/Latino	124 (8.9)
Multi-Racial	29 (2.1)
Native American	7 (0.5)
Pacific Islander	11 (0.8)
White	1140 (81.9)
Reason for Emergency Department Visit	
Suspected Opioid Overdose	418 (30.0)
Other[b]	940 (67.5)
Received naloxone training	
Yes	1235 (88.7)
No	135 (9.7)
Agreed to See Recovery Specialist	
Yes	1208 (86.8)
No	164 (11.8)
Agreed to Services Referral[c,d]	
Yes	707 (50.8)
No	88 (6.3)

[a] Values do not add to 100% due to missing or unknown values.
[b] Includes visiting the emergency department for other issues related to substance use disorder (e.g. alcohol intoxication).
[c] Includes outpatient (Medication Assisted Therapy, 12 step programs, group counseling, individual counseling and peer recovery specialist services), inpatient (detoxification, residential and long-term programs), and community-based referrals (e.g. soup kitchens, food pantries, shelters, etc.)
[d] Represents services referral discussions that are conducted only by Peer Recovery Specialists and does not include services referral by hospital clinicians, social workers or counselors.

to prevent future overdose is novel and widely viewed as an important tool to address the overdose epidemic (Formica et al., 2018). Despite national interest in this approach (Vestal, 2017) and funding through the United States' Centers for Disease Control (CDC) and Substance Abuse and Mental Health Services (SAMHSA) for ED-based and other overdose prevention interventions (Centers for Disease Control and Prevention, 2018b; J-PAL North America, 2016; Substance Abuse and Mental Health Services Administration, 2017b, 2018b), few formal descriptive reports, efficacy studies, and evaluations on the effectiveness of ED or outreach-based peer recovery programs for overdose prevention exist (Samuels et al., 2018). The Anchor outreach programs, AnchorED and AnchorMORE, represent novel and adaptable models of peer recovery support that local communities could deploy as a response to the overdose crisis. Many states are already moving forward to adopt similar models of support for people who have experienced an overdose, despite the need for greater evidence to confirm the efficacy of these programs. Given the dearth of literature on peer recovery programs as well as momentum in favor of establishing peer recovery support programs in certain states, the aim of this paper was to address the knowledge gap regarding outreach-based peer recovery programs for overdose prevention by describing and reporting on two novel and unique pilot programs, AnchorED and AnchorMORE, as components of Rhode Island's statewide overdose response.

2. Methods

2.1. Setting and Study Population

Anchor Recovery Community Center is Rhode Island's first community-based peer recovery center and is part of The Providence Center's addiction treatment programming. The Providence Center is the largest addiction treatment and mental health provider in Rhode Island, and serves approximately 18,000 people each year (The Providence Center, 2018). Located in Pawtucket and Warwick, Rhode Island, Anchor Recovery is designed as an access point to support those with substance use disorders, provide services such as job counseling, health and wellness activities, individualized long-term peer-recovery counseling, and two outreach programs, AnchorED and AnchorMORE.

The AnchorED and AnchorMORE programs are funded by: a SAMHSA Federal Block Grant awarded to Rhode Island's Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (BHDDH) (Substance Abuse and Mental Health Services Administration, 2018a), through the State Targeted Response to the Opioid Crisis Grant; the Rhode Island Department of Health's CDC Overdose Prevention for the States grant (Centers for Disease Control and Prevention, 2018b); and a grant from the Scattergood Foundation (Scattergood Foundation, 2018). The initial startup costs for AnchorED and AnchorMORE were approximately $250,000 (1-year pilot) and $75,000 (6-month pilot), respectively.

In Rhode Island, Certified Peer Recovery Specialists are individuals who have been in recovery for two or more years, have 500 h of work experience providing peer recovery support, and are certified through the Rhode Island Certification Board's Peer Recovery Specialist Exam. To be fully certified, specialists must complete a 75-multiple choice question test developed by the International Certification and Reciprocity Consortium (International Certification and Reciprocity Consortium, 2008). Additionally, Peer Recovery Specialists receive 46 h of training through Anchor's Peer Recovery Specialist trainers. The training is modeled after the Center for Addiction Recovery Training (CART) curriculum for Peer Recovery Specialists (CART, 2018). Certification classes focus on advocacy, wellness and recovery, motivational interviewing, mentoring and education, and ethics. The certification curriculum includes additional training on trauma-informed care and the stages of change model (Department of Behavioral Healthcare Developmental Disabilities & Hospitals, 2016). Peer Recovery Specialists are typically employees of various peer recovery organizations in Rhode Island, The Providence Center being the largest (The Providence Center, 2018).

2.2. Intervention

AnchorED, established in September of 2014 through a partnership between The Providence Center and BHDDH, provides on-call Peer Recovery Specialists for opioid overdose patients treated at any of Rhode Island's 10 EDs. There are currently 11 AnchorED full-time equivalent Peer Recovery Specialists and approximately 1574 reported accidental opioid overdose ED visits from July 2016 to June 2017. When a patient is treated in an ED for an opioid overdose or other substance-use related issue, hospital staff, with patient consent, can request an on-call Peer Recovery Specialist to provide consultation before patient discharge. The request is sent to the 24/7 AnchorED hotline that will dispatch a Peer Recovery Specialist to the one of ten EDs in Rhode Island (Addiction Policy Forum, 2017).

The Peer Recovery Specialists' interactions with patients typically last between twenty to thirty minutes; however, there is no standardized timeframe and a specialist will remain with the patient as long as the individual sees fit. Individuals who meet with a Peer Recovery Specialist receive overdose prevention education and naloxone training in the ED. A naloxone kit is provided to ED patients who are considered at high risk for an opioid overdose, this includes those visiting an ED for

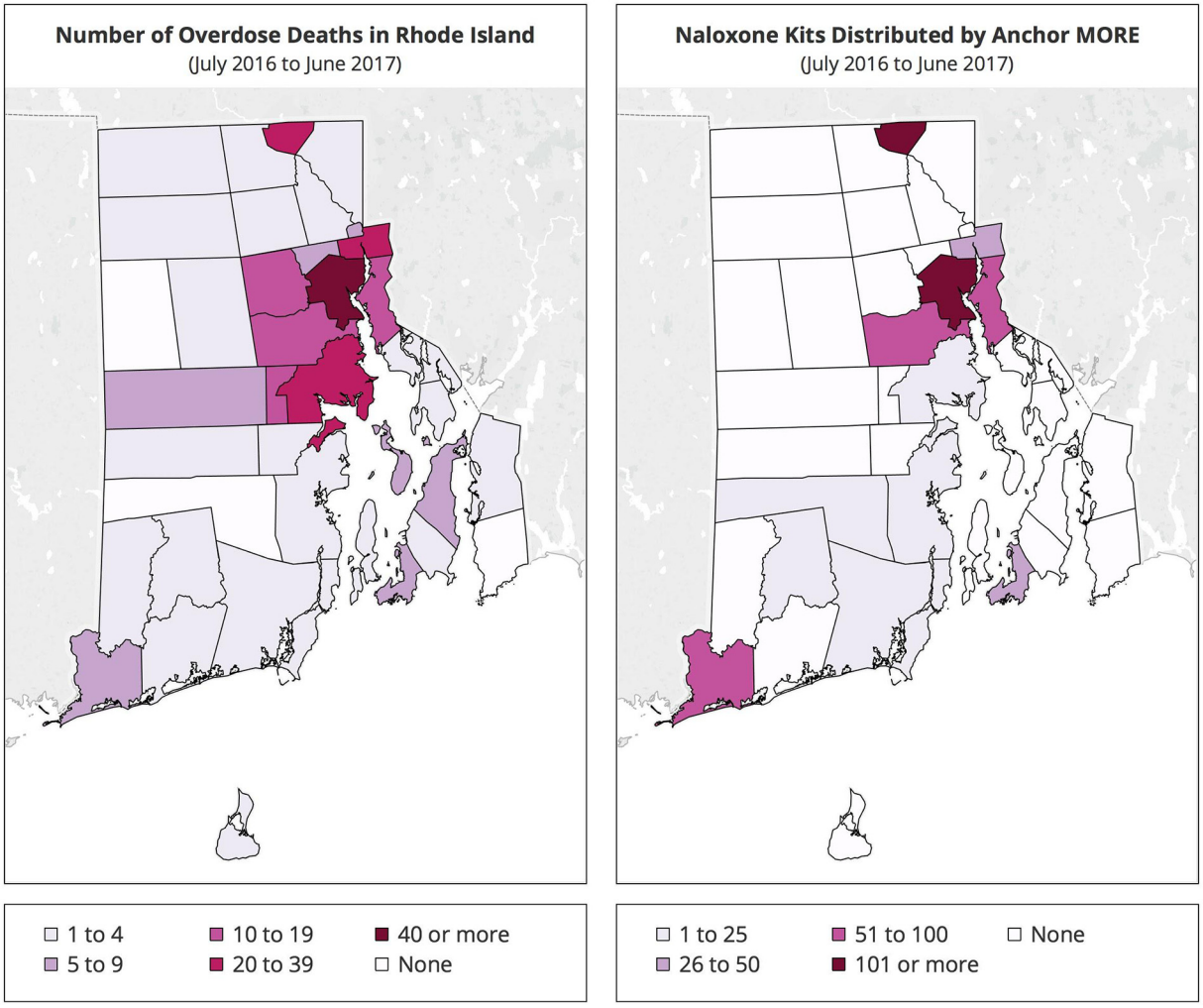

Fig. 2. Distribution of accidental drug overdose deaths in Rhode Island and naloxone distribution by AnchorMORE staff, July 2016 to June 2017.

other substance use related issues, like that of alcohol use disorder or a history of polysubstance use including that of opioids. While the Peer Recovery Specialist provides naloxone education, the naloxone is provided by each individual hospital, normally dispensed directly to the patient at the time of the ED discharge or through prescription. AnchorED post-discharge engagement with patients who have accidentally overdosed usually lasts ten days. At that time, outreach activities are performed under the purview of the AnchorMORE program, which aims to support long-term recovery through services at the Anchor Recovery Community Center or similar programs in Rhode Island.

AnchorMORE, created in 2015, utilizes publicly available overdose death surveillance data to dispatch Peer Recovery Specialist teams in communities with high rates of opioid overdose (Marshall et al., 2017). AnchorMORE specialists provide naloxone education, disperse naloxone kits, as well as offer referrals to addiction treatment or additional services (shelters, soup kitchens, etc.). The AnchorMORE team, consisting of 7 full-time equivalent Peer Recovery Specialists, typically visits a high-risk community one to three times per week and partners with local medication-assisted treatment providers, local shelters, soup kitchens, and needle exchange programs to identify street outreach routes that may be most beneficial to reach high-risk individuals. The AnchorMORE team also meets with local businesses, such as restaurants and bars, to train staff on how to respond to an overdose with naloxone. Further, AnchorMORE teams respond immediately when the Rhode Island Department of Health issues a Rhode Island Overdose Action Area Response (ROAAR), a public health advisory for increased drug overdose activity in a Rhode Island community. Lastly, the AnchorMORE team works alongside the AnchorED program by providing peer recovery support services to individuals who agree to contact after an ED visit for an overdose. AnchorMORE will offer these individuals mobile services, including transport to their treatment center of choice, as well as longer-term peer support services. In an effort to re-engage with participants that the team has lost contact with, AnchorMORE will utilize the AnchorED information (if the individuals signed a release form) to conduct outreach, typically by contacting the participant's listed friends or families or if the participant is homeless, visiting their listed shelter.

Additionally, AnchorMORE utilizes a targeted naloxone distribution approach to provide naloxone in communities with high rates of opioid overdose. To determine where to distribute naloxone, AnchorMORE utilizes an interactive, online “Naloxone Distribution Tool” created by researchers at Brown University to inform the distribution of naloxone in Rhode Island (See Fig. 1). The tool is an interactive choropleth map, created in Tableau and hosted on a secure member portal using the website, www.PreventOverdoseRI.org. The map displays a ratio of the amount of naloxone distributed to the number of opioid overdose deaths in each Rhode Island town using death data from the Rhode Island Office of the State Medical Examiners and naloxone distribution information from pharmacies, community naloxone distribution programs, and hospitals. In Fig. 1, towns that do not meet an arbitrary threshold of 20 naloxone kits per opioid overdose death are represented

in the lightest shade. For the towns that have not met this minimum threshold, the tool calculates the number of additional naloxone kits necessary to reach the 20 to 1 ratio. As naloxone distribution increases overall, this threshold can also be increased within the interactive map to identify cities/towns with relatively fewer naloxone kits distributed per opioid overdose death.

2.3. Measurements

AnchorED Peer Recovery Specialists administer a standard enrollment questionnaire to each individual agreeing to peer recovery services in the ED. The standard enrollment questionnaire was developed by AnchorED with the input of substance use and mental health treatment specialists at The Providence Center. The questionnaire collects participant contact information and basic demographics. The AnchorED program process measures include number of clients enrolled, number of naloxone training sessions offered, and number of referrals to recovery support and treatment services.

The street-based AnchorMORE administers a brief questionnaire developed by the AnchorMORE team to collect basic contact information and interaction details. Additionally, to illustrate AnchorMORE's targeted outreach efforts, the distribution of overdose deaths in Rhode Island and dispersal of naloxone kits through AnchorMORE outreach activities were mapped at the zip-code level. Data were gathered: 1) from the Rhode Island Office of the State Medical Examiners (overdose deaths) and 2) AnchorMORE's naloxone kit distribution database.

2.4. Analysis

Using descriptive statistics, we conducted a secondary analysis of AnchorED's standard enrollment questionnaire from July 2016 to June 2017 to identify AnchorED's participant characteristics and needs. Similarly, utilizing descriptive statistics, we reported on the findings from AnchorMORE's brief questionnaire from July 2016 to June 2017. Lastly, the AnchorMORE outreach activities distribution map was created with Tableau Software.

3. Results

Between July 2016 to June 2017, AnchorED made 1392 contacts with those visiting an ED for either a suspected overdose or substance use disorder. In December 2016, EDs began tracking patients who accepted or refused a peer recovery consultation. From December 2016 to June 2017, there were 301 patients who were admitted for an opioid overdose but refused consultation. In Table 1, we summarize sociodemographic characteristics of the contact sample (i.e., gender, age, race), naloxone trainings, and agreement to post-ED interactions (e.g., Peer Recovery Specialist and services referrals) among the 1392 contacts. Of the AnchorED contacts, 69% were men, 46% were aged 40–64 years, and 82% were white. The demographics found in Table 1 resemble that of Rhode Island individuals reporting substance use disorder treatment admissions in 2014, where 80% reported white race, 68% were male, and 63% were between the age of 31 and 65 years (Rhode Island Prevention Resource Center, 2016). Among the 1392 AnchorED contacts, 89% received naloxone trainings, 87% agreed to post-ED engagement with a Peer Recovery Specialist, and 51% agreed to service referrals (e.g., to outpatient or inpatient treatment, medication-assisted treatment programs, and other community-based referrals). Further, among all individuals receiving peer recovery services at the Anchor Community Center from July 2016 to June 2017, 45% (n = 1055/2362) cited AnchorED as their primary referral source, indicating a moderate rate of continued peer recovery engagement and utilization among those who initially made contact with a Peer Recovery Specialist in the AnchorED program.

From July 2016 to June 2017, AnchorMORE Peer Recovery Specialists had 8614 street-based interactions. Among this sample, the most common referrals (n = 1311) were for “other” needs; this includes referrals to food pantries, emergency shelter, and transportation assistance. Of the interactions, the second most common referral was for outpatient services (n = 615), including Medication Assisted Therapy, 12 step programs, group counseling, individual counseling and Peer Recovery Specialist services. Lastly, 344 referrals occurred for inpatient services such as detoxification, residential and long-term programs. A total of 854 naloxone kits were distributed between July 2016 to June 2017. Fig. 2 compares the geographic distribution of accidental overdoses in Rhode Island to AnchorMORE's strategic distribution of naloxone kits during street outreach activities over this same time period. The maps demonstrate that naloxone kits are being distributed in general proportion to the burden of overdose death, where Rhode Island communities reporting higher accidental overdose counts receive a greater share of naloxone kits, and thus illustrating the widespread, statewide efforts of the AnchorMORE team as well as the potential usefulness of the “Naloxone Distribution Tool”.

4. Discussion

Interest in peer recovery programs is growing nationwide as a critical intervention to improve the number of addiction treatment referrals and provide support to people in recovery (Myrick & Del Vecchio, 2016). Our findings illustrate that AnchorED and AnchorMORE have high engagement rates and connect high-risk individuals to necessary resources, including overdose prevention education, naloxone training and distribution, as well as peer recovery counseling services. These findings indicate the potential importance of Peer Recovery Specialist outreach services in targeted settings as strategic components to statewide overdose prevention responses. According to a national survey conducted by Kelly et al., nearly 54% of individuals reporting a substance use disorder utilized some form of community-based support, with 22% specifically citing peer recovery services (Kelly et al., 2017). This finding highlights a demand for peer-based programming options for individuals in need of recovery support, and suggests that local communities may need to consider replicating such peer-based models, like that of AnchorMORE and AnchorED, in other locations throughout the US.

The study has several limitations. First, the demand for the AnchorED pilot program proved greater than anticipated, and during the first year of data collection, Peer Recovery Specialists were requested for a wide number of potential substance use disorder cases, including alcohol use disorder. Due to this, we were unable to explicitly analyze the characteristics of individuals who arrived at an ED for opioid overdose versus other substance-use related admissions. Given that this study is a secondary analysis of AnchorMORE and AnchorED data, we were unable to analyze data of unique participants and rather report on aggregate contacts. There is a chance these contacts represent individuals who had met with both AnchorED and AnchorMORE Peer Recovery Specialists (or who had received services from one program multiple times), thus limiting our analyses. Further, as this is a retrospective analysis of field based, community data, there is a higher rate of unknown responses that the authors were unable to control for, thus limiting our analysis. Lastly, AnchorMORE is a low-threshold, street-based outreach program that largely focuses on distributing naloxone to Rhode Island communities and providing referrals to basic services and treatment programs. Due to this, data collection is limited and restricted our study. Finally, we were not able to analyze the effectiveness of AnchorMORE's Naloxone Distribution Tool. As such, future research should determine if geographic targeting is a useful and effective approach for Overdose Education and Naloxone Distribution (OEND) programs in reducing overdose fatalities.

It has yet to be shown whether the ED is an ideal setting to initiate discussions about behavior change among people who experienced an accidental overdose (Hawk, Vaca, & D'Onofrio, 2015; J-PAL North America, 2016). Notably, AnchorED offers individuals the option for

outreach at a later date; post-discharge engagement is an important aspect of the program and warrants evaluation. To date, studies examining ED interventions for overdose prevention are primarily feasibility studies regarding naloxone distribution and patient outcome evaluation after recieving take home naloxone in the ED setting (Dwyer et al., 2015; Samuels et al., 2018). A study by Samuels et al. evaluated patient outcomes after receiving take home naloxone in the ED, reporting decreased repeat ED visitation for opioid overdose among those receiving take home naloxone as well as an increased rate of medication initiation for opioid use disorder among those utilizing a Peer Recovery Specialist (2018). However, this study indicates it is limited by a small power and emphasizes the need for future research that includes larger sample sizes and randomization (Samuels et al., 2018). Additional research is needed to evaluate the effects of peer recovery support services on post-ED discharge outcomes following a nonfatal overdose, as compared to those who do not receive an intervention. Specific outcomes of interest include both recurrent overdose as well as initiation and uptake of treatment following a referral. A randomized controlled trial is currently being launched in our study setting to evaluate the effectiveness of peer recovery services on these outcomes.

This descriptive analysis of the Anchor outreach programs is the first step in illustrating the potential impact of peer recovery efforts in overdose response, treatment engagement, and harm reduction services. Peer recovery programs are highly adaptable and operate in diverse populations and settings, offering communities a responsive, peer-based option to potentially enhance local systems of addiction response and recovery support (Substance Abuse and Mental Health Services Administration, 2009). These interventions provide an innovative opportunity to target the overdose crisis and engage at-risk populations in key settings like EDs and high-burden neighborhoods.

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