HHS Public Access

Author manuscript

J Subst Use Addict Treat. Author manuscript; available in PMC 2024 December 01.

Published in final edited form as:

J Subst Use Addict Treat. 2024 December ; 167: 209518. doi:10.1016/j.josat.2024.209518.

Early-stage implementation of peer-led interventions for emergency department patients with substance use disorder: Findings from a formative qualitative evaluation

Umedjon Ibragimov[a,*], **Nicholas A. Giordano**[b], **Sneha Amaresh**[c], **Tatiana Getz**[b], **Tatiana Matuszewski**[c], **Alaina R. Steck**[d], **MaryJo Schmidt**[c], **Jose Iglesias**[c], **Yan Li**[d], **Eliot H. Blum**[d], **D. Ann Glasheen**[d], **Jessica Tuttle**[e], **Hardik Pipalia**[f], **Hannah L.F. Cooper**[c], **Joseph E. Carpenter**[d,g]

[a]Center for Population Sciences and Health Equity, College of Nursing, Florida State University, Tallahassee, FL, United States of America

[b]Nell Hodgson Woodruff School of Nursing, Emory University, Atlanta, GA, United States of America

[c]Department of Behavioral, Social and Health Education Sciences, Rollins School of Public Health, Emory University, Atlanta, GA, United States of America

[d]Department of Emergency Medicine, School of Medicine, Emory University, Atlanta, GA, United States of America

[e]Georgia Department of Public Health, Atlanta, GA, United States of America

[f]Aniz, Inc. Holistic Harm Reduction Integrated Care Clinic, Atlanta, GA, United States of America

[g]Georgia Poison Center, Atlanta, GA, United States of America

Abstract

Introduction: Emergency department (ED)-based peer recovery coach (PRC) programs can improve access to substance use disorder treatment (SUD) for ED patients. As literature on early stages of PRC implementation is limited, we conducted a qualitative assessment of ED PRC program implementation from several US-based PRC programs focusing on barriers and facilitators for implementation and providing recommendations based on the findings.

[*]Corresponding author at: 2010 Levy Avenue, Innovation Park, Building B, Suite 3600, Tallahassee, FL 32310, United States of America. ui23a@fsu.edu (U. Ibragimov).

Declaration of competing interest

All authors report no conflicts of interest.

CRediT authorship contribution statement

Umedjon Ibragimov: Writing – original draft, Validation, Supervision, Methodology, Formal analysis, Data curation, Conceptualization. **Nicholas A. Giordano:** Writing – review & editing, Methodology, Conceptualization. **Sneha Amaresh:** Writing – original draft, Formal analysis, Data curation. **Tatiana Matuszewski:** Writing – original draft, Formal analysis, Data curation. **Alaina R. Steck:** Writing – review & editing, Conceptualization. **MaryJo Schmidt:** Formal analysis. **Jose Iglesias:** Formal analysis. **Yan Li:** Project administration, Formal analysis. **Eliot H. Blum:** Writing – review & editing. **D. Ann Glasheen:** Writing – review & editing. **Jessica Tuttle:** Writing – review & editing, Methodology. **Hardik Pipalia:** Writing – review & editing, Conceptualization. **Hannah L.F. Cooper:** Writing – review & editing, Conceptualization. **Joseph E. Carpenter:** Writing – review & editing, Supervision, Project administration, Methodology, Investigation, Funding acquisition, Conceptualization.

Supplementary data to this article can be found online at https://doi.org/10.1016/j.josat.2024.209518.

Methods: We collected qualitative data from 39 key informants (peer recovery coaches, PRC program managers, ED physicians and staff, representatives of community-based organizations) via 6 focus groups and 21 interviews in February–December 2023. We transcribed audio-recordings and analyzed data using codebook thematic analysis.

Results: We identified the following major themes related to specific barriers and recommendations to address them. To facilitate *timely linkage to PRCs*, programs would regularly inform ED staff about the program and its linkage procedures, establish trust between PRC and ED staff, streamline the linkage procedures, and choose an "opt-out" linkage approach. To address barriers related to *external referrals,* programs use "warm handoff" and "warm line" strategies, maintain and update a comprehensive catalog of resources, and familiarize peer coaches with local service providers. *Telehealth services* implementation requires addressing logistical barriers, ensuring patients' privacy, and training peer coaches on building trust and rapport online. Peer coaches' *wellness and quality of services* can be improved by limiting PRC's workload, prioritizing quality over quantity, facilitating self-, peer- and professional care to mitigate stress and burnout; and, importantly, by providing supportive supervision and training to peer coaches and advocating for PRC team as an equal partner in the ED settings. To facilitate PRC *program adoption and sustainment* program managers engage local communities and program champions, seek diverse sources of funding, and advocate for structural changes to accommodate recruitment and retention of peer recovery coaches.

Conclusions: We compiled a wealth of best practices used by PRC programs to address numerous implementation barriers and challenges. These recommendations are intended for PRC program planners, managers and champions, hospital leadership, and state and local public health agencies leading SUD epidemic response.

Keywords

Substance use disorder; Peer recovery coach; Emergency departments; Program implementation

1. Introduction

The epidemic of drug-involved overdose deaths continues unabated in the US with >102,000 lives lost in the 12-month period ending in February 2024, a 7 % decrease from March-2022 - February 2023 period but 40 % increase compared to the similar period ending in February 2020 (Centers for Disease Control and Prevention, 2024). Most of these fatalities involve opioids, especially synthetic opioids such as fentanyl and its analogs (Centers for Disease Control and Prevention, 2024). Emergency departments (ED) are on the frontline of this epidemic: there were about 2.9 million adult ED visits related to opioids in the US in 2016–2017 alone, more than quarter of them involving an overdose (Langabeer et al., 2021); the rate of substance use disorder (SUD)-related ED visits further increased by 40 % between 2018 and 2019 and 2020–2021 (Centers for Disease Control and Prevention, 2023). Often, ED patients with substance use disorders (SUD) belong to a vulnerable patient population with limited access to evidence-based drug-related interventions (Hankin et al., 2013). Therefore, EDs are well positioned as the first point of contact to screen and engage underserved patients in SUD treatment and implement other interventions to reduce the risk

of future overdoses or other drug-related harms (Bohnert et al., 2016; D'Onofrio et al., 2015).

Involving certified peer specialists (also known as peer navigators or peer recovery coaches [PRC]) with lived SUD experience may facilitate timely and effective linkage of ED patients to evidence-based SUD services, both within the hospital and in the community. Shared lived experience of SUD and not being a clinical service provider facilitate trust and rapport between the peer coaches and patients who often experience stigma and discrimination in the hospital settings and thus may mistrust traditional health care providers (Kirk et al., 2023) As members of the interdisciplinary teams in the ED and hospital settings, PRCs engage patients admitted for SUD-related conditions, act as health navigators and patient advocates, assess patients' needs, provide basic counseling and link patients to in-hospital and community-based recovery resources including SUD treatment and rehabilitation, harm reduciton progams, mental health services, housing and other essential services (Chen et al., 2023; Kirk et al., 2023; Stack et al., 2022). Empirical studies show that PRC interventions improve access to SUD treatment and other services and reduce ED utilization (Bassuk et al., 2016; Samuels, 2014; Watson et al., 2020; Watson et al., 2021).

At the same time, PRC interventions targeting patients with SUD are relatively novel and developing, so knowledge on their successful implementation is still evolving. The emerging literature on SUD-related ED PRC program implementation explores such key topics as core components of PRC programs (McGuire et al., 2020), differences in PRC program implementation in rural vs. urban settings (Watson et al., 2022), and characteristics of peer coaches (Kirk et al., 2023); other publications to date have addressed PRC program implementation as part of the evaluation of comprehensive ED-based SUD interventions (Collins, Beaudoin, Samuels, Wightman, Baird, 2021a; Sokol et al., 2021). However, there is still limited guidance for new ED PRC programs that face common barriers during early-stage program implementation and effective implementation strategies to address them.

As literature on early stages of PRC implementation is limited, we conducted a qualitative assessment of ED PRC program implementation from several US-based PRC programs focusing on barriers and facilitators for implementation and providing recommendations based on the findings. We implemented this study to inform the development of a nascent PRC program in Atlanta, GA and to provide guidance for future program development in other regions of the US. Guided by the Exploration, Preparation, Implementation, Sustainment (EPIS) framework (Aarons et al., 2011; Moullin et al., 2019), we focused on the *preparation* (assessing barriers and facilitators for PRC program impementation and developing a plan to leverage facilitators and address barriers) and *implementation* (initiating the program in an ED setting) phases of PRC implementaiton process.

2. Methods

2.1. Overview and design

We conducted this formative qualitative assessment as part of the planning process for early-stage implementation of *Linking Individuals Needing Care for Substance Use Disorders in Urban Emergency Departments to Peer Coaches (LINCS UP*) intervention at Grady

Memorial Hospital, Atlanta, Georgia (NCT #05847621). Overall, we interviewed and conducted focus groups with service providers, staff and community partners of five ED-based PRC programs in the states of Georgia, New York, Pennsylvania and Rhode Island in April–December 2023.

2.2. Research team characteristics and reflexivity

The study was conducted by the team of public health researchers, health care professionals and public health students. The senior author (JC) is an ED physician and the principal investigator of LINCS UP project, the parent study, while the first author (UI) and several co-authors (NG, AS, HC) are co-investigators. While we have decades of collective experience of SUD-related research, interventions and service provision, and some of us had lived experience of SUD, none of us worked as peer recovery coaches. Therefore, our experiences may introduce biases into our perception and interpretation of data collected from peer recovery coaches, as we may approach these data from managerial and professional point of view with limited understanding of realities of peer frontline workers in the ED setting. To minimize these biases we closely engaged the team of peer recovery coaches (LINCS UP Community Advisory Board members) in discussion of our findings to leverage their experiences with SUD and with serving patients with SUD in the ED environment to sense-check our assumptions, interpretations and ideas.

2.3. Sample and recruitment

We recruited key informants from five ED-based PRC programs in four states. Four out of five programs were well-established and operating for several years, while one (LINCS UP) started in April 2023. One program was located in a rural area, while the rest were operating in large cities. To be eligible for participation, key informants had to work as peer recovery coaches or staff and other service providers implementing or collaborating with PRC programs. Given our access to five PRC programs and diversity of roles within each program (managers, clinical supervisors, peer recover coaches) and LINCS UP program collaborators (ED doctors, behavioral specialists, counselors, nurses, community partners serving patients ith SUD), we aimed to recruit at least 30 participants. We recruited these key informants via e-mail messages to the members of professional networks, presentations at staff meetings, and study posters placed in EDs.

2.4. Procedures

UI and JC conducted in-depth semi-structured interviews and focus group discussions (FGD) remotely via Zoom. The data collection method (individual interview or FGD) depended on participants' preferences and availability. We developed the initial versions of the interview and FGD guides (see Supplemental File S1) based on the literature on ED-based PRC program implementation and then reviewed and revised by LINCS UP CAB members - peer coaches, PRC managers and community partners (representatives of local community-based organizations serving people with SUD and of a state public health department). We iteratively revised the guides as we collected and analyzed data. The interview and focus group domains covered participants' experience with the programs; key challenges and facilitators for successful implementation of the program, including engaging ED patients and linking them to services, ensuring the quality of services,the interaction

between peer coaches and ED staff, the process of referrals; wellness of peer coaches; program sustainment; implementation strategies, best practices and recommendations for emerging PRC programs. We also asked participants to complete an anonymous online demographic mini-survey. We obtained verbal consent and offered a $50 gift card as compensation for participants' time and effort. Emory University's IRB approved the study protocol.

2.5. Data analysis

We audio-recorded the interviews and FGDs and transcribed them verbatim. We analyzed data in NVivo 14.0 software (Lumivero) using codebook thematic analysis (TA) approach (Braun & Clarke, 2006, 2014, 2022, 2023). We developed the initial codebook with codes reflecting interview and focus group guides domains, and then iteratively and substantially updated and expanded the codebook by including codes emerging from data. The team of three coders guided by the lead author (UI) first immersed themselves into data by thoroughly reading and re-reading the transcripts. The team then jointly coded the initial four transcripts and updated the codebook based on the emerging codes. The coders independently coded subsequent transcripts double-coding every fourth transcript to ensure consistent application of the codebook. To ensure rigor, the team iteratively revised the codebook and discussed and reconciled discrepancies in the application of codes. We grouped codes with related meaning to higher-level categories, and subsequently combined them into themes and underlying sub-themes reflecting key findings from data. It was an iterative process involving discussions and reflections by the coders on meaning and interpretation of data. In line with the TA paradigm (Braun & Clarke, 2021), we did not aim for achieving theoretical saturation in our data. We drafted memos to reflect the process of analysis and describe, define and name each theme and sub-themes. We synthesized the memos into the report on the findings following the Results section structure below, and presented to and discussed the report with the LINCS UP research team, peer coaches and community advisory board members.

3. Results

3.1. Sample characteristics

We conducted 21 interviews and 6 FGDs with 39 key informants, of whom 31 (79.5 %) completed the demographic mini-survey. Participants' demographic characteristics and roles in PRC or ED settings are presented in Table 1. Majority of the participants self-identified as female (n = 21, 68 %), of White race (n = 24, 77 %) and non-Hispanic ethnicity (n = 30, 97 %). One third of the sample were peer recovery coaches (n = 13, 33 %), another third comprosed medical doctors (n = 13, 33 %), including those managing PRC programs (n = 4, 10 %). The rest of the sample included PRC clinical supervisors, behavioral health specialists and counselors, representatives of community-based organizations serving people with SUD and ED nurse practitioners.

3.2. Findings from qualitative data

We identified the following themes throughout our analysis: timely linkage of ED patients to peer coaches; referrals to external services; telehealth in PRC programs; peer recovery

coaches' workload, quality of services and wellness; program adoption and sustainment. Below we present each theme and its underlying sub-themes in detail. A summary of recommendations for each key theme is provided in Table 2. Additional quotations are marked by a superscript letter and can be found in the Supplemental File S2.

3.2.1. Barriers to timely linkage of ED patients to peer coaches—Almost all interviewed peer coaches and PRC managers mentioned the importance of early linkage of ED patients living with SUD to peer recovery coaches. Unless the programs deploy a set of measures to facilitate early linkage, as further discussed in this analysis, the first contact may be significantly delayed leaving peer coaches with a very narrow window of opportunity to establish rapport with the patient, assess their needs, and develop a plan of recovery. For example, a peer recovery coach told us that sometimes delays may be very long:

> A lot of times a peer will be admitted to the hospital, they'll be on the medical floor, and they'll be there for 15 days, 20 days. And we find out about them the day they're leaving… And that is actually a pretty big thing that happens a lot, is that we are referred at the very last minute on the last day.
>
> - a peer recovery coach, FGD 1

One of the key reasons that peer coaches are not connecting to patients with SUD is due to ED providers and staff (especially rotating residents, travel nurses and other ED staff with high turnover) not being aware of their PRC program or patient linkage procedures.[a] Staff and providers may also miss or forget information about the program due to high informational overload in ED.[b] Delays in linkage may also occur when ED staff fail to notify peer coaches of a possible patient needing their resources, especially when the ED is understaffed or occupied over capacity, staff has little time to facilitate linkage or forgets about calling peer coaches. An ED doctor explained that the shortage of triage nurses does not allow for the timely identificaiton of patients in need:

> We have to ask so many required questions [during triage] and we are significantly short-staffed on nurses, especially triage nurses.
>
> - an ED physician, interview 2

Overall, participants reported that the busy environment of the ED is often not conducive to adopting new programs or services. Introducing peer coach services to an overcrowded and understaffed ED settings may add more stress, as a senior member of ED team mentioned:

> Clearly, the elephant in the room is hospital overcrowding, right? And bringing yet another human into the environment. Not to say it's not the right thing to do, it's just the practicality of implementing how to do that safely without everybody else being the looky-loo to figure out what's going on and causing, perhaps, more angst and anxiety.
>
> - an ED leadership member, interview 8

Additionally, findings from participants indicated that ED staff may fail to establish patient's need for a PRC program when SUD-related problems are not detected during triage or tests or not recorded in the electronic medical records (EMR).[c] Linkage to a PRC program may also become problematic when ED patients are intoxicated, in acute withdrawal or otherwise

not able to meaningfully interact with peer coaches, as reported by participants. In some cases patients may refuse contact with peer coaches or leave the ED early before they have a chance to engage with peer recovery coaches.[d]

Finally, participants reported that a lack of trust and SUD-related stigma among ED clinicians may also affect collaboration between ED and PRC teams and hamper timely linkage for patients.[e] Since peer coaches have lived experience of SUD and at the same time do not have medical degrees, ED providers and staff may distrust them and be reluctant to recognize the value of a PRC program and collaborate with peer coaches, as shown in the quotation below:

> I would say it takes time building the trust. There's a lot of clinicians who have been doing this for a long time and thinking [about peer coaches], "Who are these people? Why do we need this [program]?"
>
> - a behavioral health specialist, interview 5

3.2.2. Strategies to ensure timely linkage—As evident from interviews, PRC programs use a range of approaches to facilitate the timely linkage of ED patients to peer coaches. All participants emphasized the importance of *promoting program recognition* by regularly educating and reminding ED staff about the program. PRC programs use various channels to educate ED staff, such as regular presentations to physicians and staff during meetings, sending introductory e-mails and adding information to orientation packages for new staff, placing posters and other visual reminders across ED.[f] To ensure that physicians and staff are familiar with peer coaches, programs introduce peer coaches during presentations and post their pictures on program websites; peer coaches also contact ED staff at the start of the shift to remind them about the program and services.[g] A peer coach stressed the need to educate and enable nursing staff in addition to physicians to link patients to the program:

> With revolving staff, with a lot of traveling nurses, that constant education, if nothing else, [should help], maybe if at least the charge nurses and the nurse managers knew about us, knew [peer coaches] existed. Don't make it where only a doctor could make a consult, but if a charge nurse or a nurse supervisor could ask for a consult, we would get a heck of a lot more.
>
> - a peer recovery coach, interview 3

In addition to informing ED providers and staff, participants reported that programs should also *build trust* between clinicians and peer coaches, *address stigma* and *change ED culture* to make it more receptive to peer-led interventions. A PRC manager shared how demonstrating the added value of the program to clinicians helped to change ED culture, improve PRC program recognition, and address stigma as a barrier for patients:

> But what I did learn quickly was the [ED] culture needed some de-stigmatization and a little bit of changing. (…) And what we did that was really helpful to change the culture was we would provide the ED docs back with success stories of patients they encountered. And that seemed to really change the [staff's] perception of patients when they came in for help.

- a PRC manager, interview 12

Participants reported that programs at their facilities also *streamlined the linkage process* by introducing a single contact phone number for ED staff to call or text peer coaches about the patients following a simple and brief protocol.[h] Introducing changes to electronic medical records (EMR) so peer coaches can see consult orders, and receive notifications and automatic alerts about patients who may benefit from PRC services may also streamline the process of linkage.[i] Since ED staff are constantly exposed to multiple alerts and announcements,[j] participants highlighted the importance of constant reminders and visual cues about the linkage process. For example, an ED physician managing PRCs mentioned:

> Constant repetition, reminding [the ED staff about] the purpose [of the program], reminding them the [contact phone] number. Make it one [phone] number, [place] reminders within the EMR, signage around the ED. If you have workstations for your attending [physicians] and [physician assistants] et cetera, put [the phone number] on a mouse pad. Just more visual cues and just repetition, repetition.
>
> - an ED physician and PRC manager, interview 2

Stationing peer coaches on ED premises also facilitates engagement, per participants, especially when a patient wants to leave the ED earlier than recommended and may not wait for a peer coach to arrive from another location.[k] Another solution practiced by most programs in the study is an opt-out approach to patient engagement when a peer coach who has access to EMR proactively engages the patient without waiting for an explicit request from the patient or another member of the healthcare team.[l] As a peer recovery coach shared, this approach lowers the threshold for engagement:

> I feel like the [peer coach] should come right on in at that moment because even though [a patient] might still decline, that's true, but they might be like, "Okay, I'll talk to that person," or "I'll listen to you." But if you give [patients] an option, of course they're going to say "no" off the bat, not even having an understanding of who we are and what we do.
>
> - a peer recovery coach, interview 15

3.2.3. Referrals to external services—Participants highlighted that PRCs collaborate with extensive referral networks of organizations providing people with SUD a wide range of services, including SUD treatment, other specialized and general health care and social services. Still, participants shared that programs often face barriers to successful referrals. Almost all PRCs in this study reported problems with securing *transportation* to link ED patients to local community-based service providers, for follow-up visits, recovery meetings, and other medical appointments.[m] Potential solutions may include supplemental transportation grants, rideshare services, using staff's personal vehicles, and public transportation passes, but not all programs have access to these resources. Some community-based service providers also offer transportation to their programs for their clients, including PRC program participants.[n] A PRC program supervisor described using various approaches to offer transportation:

> …we do provide transportation with our personal vehicles. And then the hospital system has also been very kind to allow us access to our internal [rideshare] system.
>
> - a PRC clinical supervisor, interview 7

Participants shared that patients with SUD may also lack mobile phones and internet access, which imposes additional challenges for referral and follow-up. Some programs try to address this problem by providing free phones to participants, as funding permits, as shown in the quotation below:

> …at one point we had a grant, and we purchased a ton of cell phones, and it did increase engagement for certain folks.
>
> - a PRC clinical supervisor, interview 7

PRC programs may also experience challenges placing patients into programs or services due to *admission requirements*. Many SUD treatment programs set a high threshold for ED patients with SUD by requiring negative drug, TB, STI tests, which may be particularly challenging to meet in the ED setting.[o] Shelter and housing services, as well as inpatient recovery programs that are in high demand by patients also impose strict abstinence requirements.[p] Even patients receiving medications for opioid use disorder [MOUD] like methadone or buprenorphine may be barred from receiving such services, as explained by a peer recovery coach:

> Medications [for opioid use disorder] altogether are a barrier, as far as placing individuals in programs, unfortunately. (…) when someone actually needs (…) a [residential] program to go to, or they need that housing, then [MOUD] becomes an issue, in regards to some facilities.
>
> - a peer recovery coach, FGD 6

Mental health comorbidities that are highly prevalent among ED patients with SUD may also prevent them from joining these programs per participants.[q] Further, lack of availability or limited capacity of inpatient SUD treatment and recovery programs are one of the most often cited barriers to referral. A behavioral health specialist collaborating with a PRC program mentioned how the lack of availability of SUD treatment beds creates wait lists in ED hospitals:

> Bed availability [for residential treatment programs] in the state is very slim. Today we probably have, I think we have 17 emergency department patients right now waiting for placement. We do have some level of a wait time. That would be the only barrier.
>
> - a behavioral health specialist, interview 5

Some PRC programs negotiate with EDs to keep patients waiting for placement for several extra days (usually 2–3 days) in the ED, although participants disclosed that ED staff and leadership may resist as these ED beds are often needed for other patients.[r]

Due to the wide range of community-based services and service providers, participants shared that PRC programs create and regularly update the *list of available resources*. To ensure the resource list is not outdated,[s] some programs established internal tracking

systems for these resources, while others utilize electronic portals where partners may share and update information, as told by a peer navigation program manager:

> What we have just begun to start using is a platform called Unite Us, that is an electronic portal. And the idea is that healthcare systems like ours, as well as other community organizations who have resources, are all a part of this hub, if you will. And then we can refer to each other, and we can communicate with each other on what things we have available and what we don't have available.
>
> - a PRC program manager, interview 13

According to participants, PRC programs ensure that peer coaches are *familiar with local service providers,* which helps to choose the right service provider for a patient and facilitate the process of referral.[t] A peer coach team leader explained the importance of visiting local service providers:

> We spent a lot of time trying to make personal connections to services that we would be potentially referring folks to. And so going in person and visiting places that we might refer folks to, to ensure that the experience that we would be sending people to would be positive.
>
> - a PRC team leader, FGD 3

Patients' handoffs to local service providers are a critical step in the referral process as emphasized by participants. Some programs practice *warm handoff* procedures, when a peer coach or other PRC staff directly introduce a patient to the local service provider, either via a phone call or by accompanying them to the receiving program as stated by participants.[u] However, most programs in our study do not consistently practice the warm handoff. One of the barriers is inability to share patients' personal information due to perceived HIPAA restrictions,[v] as explained by a peer coach:

> I have [information about referral] resources ready. I make sure though, anything I talk about, I have at least a web link [that patients] can contact and go look. Because as a peer coach, I can't make introductions. That's the biggest hurdle I face is I cannot make introductions, because they're protected by HIPAA.
>
> - a peer recovery coach, interview 3

Most PRC programs instruct patients to call directly to the local service providers, although PRCs may assist with the process by giving detailed information about the provider, including information based on PRCs personal interactions with programs and their staff, or providing access to a phone if patients do not have one. Referral success also depends on local service providers' readiness to follow-up with the referral, quick and efficient communication between the PRC and service provider, and provision of other assistance to the patient including transportation.[w] PRC programs also have *warm lines* operated by trained peer coaches where patients may call to receive additional information or assistance with the referrals.[x]

3.2.4. Telehealth in PRC programs—While PRC programs usually engage patients in-person in the ED setting, some programs mentioned using telehealth sessions, via Zoom or video-messaging platforms.[y] One reason for using this option was COVID-19

pandemic lockdown.[z] Other programs use telehealth during follow-up calls with patients for convenience and accessibility, especially when patients who do not have access to transportation. This option significantly widens the range of service providers and peer groups they can connect across the nation.[y] Some program representatives expressed concerns that initial engagement of patients via telehealth may be less effective in establishing trust and rapport compared to in-person visits.[aa] However, peer recovery coaches also emphasized that a proper, patient-centered approach may overcome this challenge:

> Nobody really takes the time to ask them what they want or what their goals are or how they can get there. So, I think that even with video, even with telephone, that is a way to connect with an individual that will supersede the barrier of the technology or the lack of body language on a telephone. That's what I do to break that barrier.
>
> - a peer recovery coach, FGD 1

Program representatives also cited logistical barriers to setting up telehealth sessions in the ED such as ensuring patients' access to a device, training peer coaches and assisting patients with limited technological skills.[ab] Another concern is privacy, and peer coaches noted that before starting telehealth the peer coach needs to make sure no other person is nearby:

> I would anticipate that one of the things that would be important would be for the coach doing the telehealth to make sure they know who's in the room, because you may only be able to see the peer, but there may be somebody sitting in the corner.
>
> - a peer recovery coach, FGD 1

3.2.5. Peer recovery coaches' workload, quality of services and wellness—

Our interviews illustrated the close linkage between peer recovery coaches' wellness and quality of services, as well as the role that a balanced workload with support and supervision may play in improving both peer coach wellness and quality of services. Due to the demanding nature of assisting patients in crises, and the lack of time and other resources to assist everyone in need, participants reported that peer coaches often experience stress, feel overworked, and may burnout.[ac] Peer coaches described how stress affects their wellness and quality of work:

> …when you're in the helping profession and you are walking into rooms day after day after day, crisis after crisis after crisis, there does come a point where […] a coach can be burned out, because they're not taking care of themselves. So, they start breaking down. Then the quality of support they're providing breaks down, or they can start to become pissed to it …
>
> – a peer recovery coach, FGD 1

Participants stated that peer coaches may be at elevated risk because they are in recovery from SUD themselves, and emotionally taxing interactions with the patients in crises may trigger past traumas and increase the risk of relapse.[ad] One peer coach described their experience as a constant risk of relapse:

> It's like we found the light, but we're constantly walking back into the dark. It's with our hand out this time and we're not living there, but we're going into it constantly into that dark place.
>
> - a peer recovery coach, FGD 1

3.2.6. Addressing burnout and maintaining the quality of services—One group of recommendations to address burnout and maintain the quality of services that emerged from participants relates to limiting peer coaches' *workload*, specifically, the number of hours worked per week and the number of patients overseen by a peer coach, as illustrated in the quotation below:

> We do not allow our coaches to work over 40 hours. It's not acceptable. If they do work, then if they do stay over one day, they have to flex that time another day. Over 40 hours is not acceptable.
>
> - a peer recovery coach, FGD 1

To maintain work-life balance, participants shared that their programs discourage peer coaches from receiving calls from patients or otherwise engaging with the patients outside of the official work hours.[ae] When programs have resources, participants indicated that they may establish backup options like a warm line where patients may call after hours. Another approach is *limiting the number of patients* a peer coach serves. According to interviewees, the programs do not set strict patient quotas for peer coaches to engage, but rather have overall guidelines. Participants shared that the number of patients managed by a peer coach depends on many factors including patients' needs (those in crisis or with high level of unmet needs require more time with peer coaches), patients' trajectory (more time when patients are in ED and during warm handover, less time after discharge) and individual patients' preferences (some patients may prefer longer or more frequent sessions).[af] Participants noted that programs do not often use the number of patients served as an important performance evaluation milestone. Rather, as one peer coach manager emphasized, the priority of quality over quantity and trusting peer coaches in identifying how many patients they can realistically assist matters:

> Never numbers [of patients served]. It's the quality of the engagement, because I never want a recovery coach to think that if they don't get it like that, that they're not being successful in their job. […] for me, supervision is not necessarily to talk about your numbers (…) because I trust and have developed a staff and chosen a staff that I know that they're going to be doing their best.
>
> - a PRC supervisor, FGD 2

Participants reported various forms of *psychological care*, such as self-care, peer support (self-help groups, recovery sponsors), and professional therapy as important instruments for peer coaches to manage stress, avoid burnout, and maintain their recovery progress. Participants indicated that peer coaches learn how to practice self-care and receive support as part of their professional training. Further, as peer coaches start serving patients, participants shared that programs provide access to therapy, facilitate peer support opportunities, including self-help groups, and arrange retreats and other team events.[ag] Some

participants also described how programs accommodate potential relapses of peer coaches by not demanding strict sobriety and providing medical leave in case of substance use relapse.[ah] Participants emphasized the role of peer coaches' teams in preventing burnout as team members provide mutual informational and emotional support, share success stories, discuss challenges, and identify solutions.[ai] A peer coach described how being part of the team helps them to avoid being overwhelmed and resentful:

> I just think that one part to where it's like, hey, I don't have to do it by myself. That's why we have a team to where it's like, hey, we can do great things. We could do it together, but if I try to take it all on myself […] I'm going to get burnt out because I feel like I'm taking on too much. And then you could have feelings of resentment and all those things that stem from that and it's all self-inflicted.
>
> - a peer recovery coach, FGD 1

Supportive supervision was found to be key in helping peer coaches maintain wellness and ensure quality of services, as participants from all programs pointed out. Supervisors provide mentorship and professional guidance to peer coaches, review their reports and clinical notes, listen to debriefs and offer feedback among programs that participants were familiar with.[aj] The main role of a supervisor is to support peer coaches and help them grow professionally, not punish them for underperformance, participants emphasized.[aj] According to participants, supervisors often have lived experiences of SUD and start their careers as peer recovery coaches. Participants reported that supervisors closely observe peer coaches' wellness and quality of services, ensure that they are not overworking themselves, and that they do not experience re-traumatization or progress towards burnout.[aj] A PRC described the positive impact of supportive supervision in addressing burnout in their day-to-day work:

> I'm so grateful that we have [PRC supervisor] as our supervision because we can get in touch with her, "Hey, this is going on, this is how I feel." And it helps so much to be able to express that, regroup, and then jump back in.
>
> - a peer recovery coach, FGD 1

Supervisors also serve as liaisons between peer coaches and hospital or program leadership, advocate for their teams, educate ED staff about the program, facilitate collaboration with ED staff and other hospital departments, and assist with conflict resolution. Engaging *program champions* within PRC teams, especially PRC supervisors, as well as within and outside of ED departments can also help to reduce burnout, improve quality of services, and patient outcomes.[ak]

To be effective, supervisors need to have *specialized training*, according to participants, including training on supervision of peer recovery coaches, in-depth understanding of ED operations, and knowledge of structural determinants of health.[al] Participants discussed that *training of peer coaches* is also crucial for ensuring their well-being and quality of services. Peer coaches rarely have formal training in health care or social work, so participants shared that it is important to have a certified training program to familiarize coaches with fundamentals of SUD, comorbidities, principles of treatment and recovery, harm reduction and prevention, trauma informed care, ethics and confidentiality, ED protocols, self-care and

other areas related to peer recovery support. A peer recovery coach described some aspects of the specialized training they received:

> The other thing, too, I think technically, in terms of just our technical training, the motivational interviewing training that we get through the CARES Academy, in addition to the science of addiction and recovery training that we receive is so helpful.
>
> - a peer recovery coach, FGD 1

Participants stated that being in recovery from SUD, peer coaches may have personal experience with abstinence-based programs like The 12 Steps; however, they also receive training on other evidence-based interventions, including harm reduction programs and medication-assisted treatment.[am]

Pay equity may also contribute to maintaining peer coaches' wellness and quality of services and retaining qualified peer coaches in the team according to participants. Since PRC programs are an emerging intervention, many hospital systems that participants were familiar with do not have proper mechanisms for adequate compensation of peer coaches. One of the PRC managers described how hospital systems may value formal degrees more than the complex and demanding nature of peer coaches' work in determining their pay rate:

> And we are telling you, if you want to keep good people, you need to pay them more money. (…) [Peer coaches] are doing super complex social navigation, motivational interviewing, counseling about treatment options, getting people into services no one else can get them into. Taking people in their cars. I'm just like, "They're doing super hard work" and you're just kind of like, "Well, they don't have a bachelor's." It's very frustrating.
>
> - an ED physician and PRC manager, interview 6

3.2.7. Program adoption and sustainment—*Program champions* such as ED doctors or community-based peer recovery organizations initiated all PRC programs we interviewed. Program champions were instrumental in securing *hospital leadership's buy-in* of the program by educating the leadership about the program benefits for the hospital, such as additional revenue, decreases in ED staff workload, and patients' readmissions.[an]

PRC adoption may also involve *structural changes* in hospitals such as changing rules related to hiring staff with criminal backgrounds. Many peer coaches may have drug-related criminal charges in the past that may become a barrier during the background check during their hiring process. A PRC manager described how the problem of criminal background check was addressed:

> (…) there was a very large HR process engagement around creating some exceptions or how we would hire people who did have a criminal background. I mean you still do a criminal background check and all these other things, but that didn't make them un-hirable.
>
> - an ED physician and PRC manager, interview 6

All participants mentioned c*ontinuous funding* as a key facilitator for the program sustainment. All programs have been launched using external grant funding from sources such as CDC or local health departments. To continue operations, programs apply for additional grants, merge with social work programs at the hospital or local health departments or, in rare cases, become fully funded by a hospital.[ao] One of the participants, an ED doctor managing a PRC program, mentioned the possibility of billing insurance for peer coaches' services, but admitted technical difficulties for implementing it:

> Not my best expertise with the financials, but anything you can kind of lump into SBIRT, the screening and brief intervention for end therapy, you can bill for. So, if you have a conversation with a patient about their substance abuse and then you're getting them into treatment, you can bill SBIRT. That stuff, you'd have to look a little bit more nitty-gritty. Again, another thing completely in its infancy at my shop is how to incorporate that into our billing.
>
> - an ED physician and PRC manager, interview 2

Programs also need *support from the community* for successful implementation and continuation of PRC programs according to participants. Participants shared that community partners have assisted some of PRC programs with initial or continuous funding. Community partners are also key in advocating for hospitals adopting program funding.[ap] Engaging PRC community partners may take various forms as participants reported, including establishment of referral networks, sharing information, and issuing sub-awards to support community-based components of PRC programs. Community advisory boards (CAB) are one of the most effective ways to involve communities in providing guidance and assistance to PRC programs, interact with PRC teams, and advocate for the program according to participants. An ED doctor who is part of a program CAB shared their opinion about collaborating with other CAB members:

> Oh, I like [PRC program CAB] a lot. I think it's great. I think it's great just to have all the people from the different backgrounds and people from treatment centers and people from just all different aspects, detox and peer community kind of places to be able to work together.
>
> - an ED physician and CAB member, interview 31

4. Discussion

Our report presents recommendations for ED-based PRC programs serving patients with SUD. We identified themes related to the successful implementation of PRC programs such as timely linkage of patients to peer coaches; peer coaches' wellness and quality of services; referral to external services; program adoption and funding. These findings outline specific and actionable recommendations for program planners and thus contribute to the emerging literature on earlier stages of PRC program implementation. Unlike previous qualitative research focused on evaluating established single site programs, this study synthesizes findings from across facilities and regions to guide the implementation of future programs.

Linkages to recovery services that commence in the ED may help foster improved care outcomes for individuals living with SUD. Literature establishes t*imely linkage of patients*

to peer coaches as one of the core functions of PRC programs (McGuire et al., 2020). Timely linkage ensures that patients who may benefit from PRC services are not missed by peer recovery programs and help to ensure patients receive their full benefits. Our participants emphasized the importance of regular education and reminding ED providers and staff about the program, its team, its benefits for patients and hospital, and about linkage procedures. This education may also address prejudice towards peer coaches as non-medical staff and reduce stigma against patients with SUD (Anvari et al., 2022; Chen et al., 2023).

Another set of recommendations identified from this work relates to *streamlining the process of linkage.* Streamlining includes establishing a single phone number by which to contact peer recovery coaches, establishing EMR linkage procedures, as well as "opt-out" approach to engagement of patients by peer coaches. "Opt-out" or automated peer consultations are most effective when implemented via EMR systems that allow for the automatic identification of patients with SUD (Lowenstein et al., 2022). Notably, some researchers (Collins, Beaudoin, Samuels, Wightman, Baird, 2021a) raised ethical concerns related to the "opt-out" approach as it may limit patients' agency. "Opt-out" engagement practiced by PRC programs can be viewed as an offering of a service, not its initiation, and it involves obtaining patients' consent. This approach may alleviate concerns for patients' autonomy; however, more research is needed about patients' ability to provide informed consent while interacting with peer coaches in ED settings.

Referrals to external services are a key element of any ED-based PRC program. Programs in our sample experienced multiple problems with referrals due to limited capacity of understaffed community-based services, limited availability and high-threshold eligibility and admissions requirements of housing and inpatient services. Furthermore, patients' lack of access to transportation and mobile phones complicated referrals. Finally, patients with SUD often experience stigma and discrimination by service providers and may distrust them. While PRC programs have limited resources to address all referral barriers, we documented various practices facilitating referrals such as creating and updating the list of available community-based resources, warm handoff procedures, establishing connections between peer coaches and community-based services providers, operating warm lines, following up with the patients and service providers, and provision of phones and transportation. Literature supports the role of PRC programs' proactive approach to referrals, including warm handoff procedures, in successful linkage and adherence to SUD treatment and other services (Manning et al., 2012; Stanojlović & Davidson, 2021).

Our data offer a glimpse of implementation of telehealth services in PRC programs. Telehealth service provision for ED patients with SUD, including peer-led programs, expanded during the COVID-19 pandemic (Collins, Beaudoin, Samuels, Wightman, Baird, 2021b). While the literature on implementation of telehealth by PRC programs is limited, it echoes concerns identified in our study such as logistical barriers and challenges related to building trust and support during remote sessions (Collins, Beaudoin, Samuels, Wightman, Baird, 2021b; Garvin et al., 2023; Spagnolo et al., 2022). PRC programs planning telehealth components should allocate resources (devices, internet connection), and train peer coaches on technological literacy and patient engagement skills (Spagnolo et al., 2022).

We also explored the linkage between *peer coaches' well-being and quality of services*. Peer coaches are at high risk of burnout due to the stressful nature of work, stigma and vicarious trauma (Stack et al., 2022). Stress and burnout may limit peer coaches' ability to effectively serve the patients and jeopardize their own recovery (Felton et al., 2023). To address stress and burnout, programs undertake various measures such as *limiting peer coaches' workload* (setting limits on the number of work hours, prioritizing quality over quantity of work, maintaining work and life balance), *reducing stress and facilitating recovery* (self- and peer-care, professional therapy), *training, mentorship and supportive supervision*. National efforts to promote well-being and mitigate the development of burnout among clinicians emphasize health systems implement scalable and sustained efforts, but often these efforts do not specifically outline the unique needs of peer recovery coaches (National Academy of Medicine, 2024). The literature on PRC programs endorses supportive, recovery-oriented supervision as a critical element of ensuring peer coaches' wellness and quality of services (Kirk et al., 2023; Stack et al., 2022). To facilitate recovery-oriented supervision, program planners may utilize available guidelines developed by peer support organizations, such as *Substance Use Disorder Peer Supervision Competencies* (Martin & Jordan, 2017) and *Remote Supervision* (Unity Recovery, 2020). Future research on the impact of peer recovery coaches' well-being and the impact on programming to meet patients' care needs is warranted.

In addition to wellness promotion and supportive supervision arranged by the programs, peer coaches' wellness depends on *ongoing advocacy.* Program leadership and champions should engage hospital leadership, providers, and staff to promote peer coaches' recognition and acceptance, including advocating for organization-level changes. The literature describes various types of organization-level change facilitating acceptance and recognition of PRC programs and peer coaches and promoting *program adoption*, including defining peer coaches' roles and expectations (Almeida et al., 2020; Byrne et al., 2022; Mamdani et al., 2021); offering formal and permanent job positions (Greer et al., 2020; Mamdani et al., 2021); adopting flexible procedures and structures facilitating peer coaches' service and recovery (Collins et al., 2019; Wilson et al., 2018); allocating resources (office space, transportation etc.) (Bonnington & Harris, 2017; Mamdani et al., 2021); engaging peer coaches into decision-making about the program Almeida, (Bonnington & Harris, 2017; Byrne et al., 2022; Chen et al., 2023). Proper recognition of peer coaches' work and burnout prevention is impossible without establishing adequate pay, providing employee benefits and ensuring job security (Almeida et al., 2020; Chen et al., 2023; Greer et al., 2020; Mamdani et al., 2021). At the same time, some authors (White, 2009) warn against bureaucratization and commercialization of the peer specialist workforce as this could affect the reciprocal and voluntary nature of peer recovery service relationships.

All programs in our sample leveraged *external funding* to launch their programs, including federal, state, and local grants. Only one program in our sample secured funding from their hospital after establishing their program utilizing extramural funds. This reliance on external funding impedes the prospects for program sustainment and scale-up. Billing for peer support services might be an optimal solution for program funding and sustainment, and the Centers for Medicare and Medicaid Services allows billing for peer support programs. In 2019, according to the latest available data, 38 states adopted policies to cover some level

of peer support services for patients with SUD who have Medicaid coverage. Still, as our interview and other studies (Stack et al., 2022) show, programs may lack the experience and resources to navigate complex billing systems. Billing for PRC services may be an even more daunting task in non-Medicaid expansion states where patients with SUD are more likely to lack insurance coverage (Andrews et al., 2019).

The study findings are subject to limitations. Our sample of ED-based PRC programs is limited and does not represent the variety of programs operating in the US. While we interviewed service providers with various roles in PRC programs, we did not interview peer coaches from each program. Similarly, our sample did not include patients with SUD, so we cannot present patients' perspectives on how PRC implementation practices may affect their experiences and outcomes. Finally, our study is not a systematic and comprehensive evaluation of these programs – we focused on topics most salient for the early stages of program implementation. Despite these limitations, this study's ability to systematically gather and synthesize findings from across multiple peer recovery programs provides valuable insight into the potential challenges and benefits of launching and implementing novel peer recovery services at new institutions.

5. Conclusions

PRC programs are promising interventions for effectively linking patients with high levels of SUD-related and other unmet needs to services. Yet, programs face many challenges in their successful implementation. Our study compiled recommendations and best practices related to the timely linkage of patients to services, establishing successful referral systems, implementing telehealth services, ensuring peer coaches' well-being and quality of services, and facilitating program adoption and continuous funding. These recommendations are intended for PRC program planners, managers and champions, hospital leadership and state and local public health agencies leading the SUD epidemic response.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgements

The authors thank all participants for their time and contributions to this work. We also express our gratitude to LINCS UP Community Advisory Board for their guidance and contribution.

Funding

This work was supported by funding from the National Center for Injury Prevention and Control at the Centers for Disease Control and Prevention (R01CE003509). The funder had no role in data collection, interpretation and reporting.

References

Aarons GA, Hurlburt M, & Horwitz SM (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. Administration and Policy in Mental Health and Mental Health Services Research, 38(1), 4–23. 10.1007/s10488-010-0327-7 [PubMed: 21197565]

Almeida M, Day A, Smith B, Bianco C, & Fortuna K (2020). Actionable items to address challenges incorporating peer support specialists within an integrated mental health and substance use disorder system: Co-designed qualitative study. Journal of Participatory Medicine, 12(4), Article e17053.

Andrews CM, Pollack HA, Abraham AJ, Grogan CM, Bersamira CS, D'aunno T, & Friedmann PD (2019). Medicaid coverage in substance use disorder treatment after the affordable care act. Journal of Substance Abuse Treatment, 102, 1–7. [PubMed: 31202283]

Anvari MS, Kleinman MB, Massey EC, Bradley VD, Felton JW, Belcher AM, & Magidson JF (2022). "In their mind, they always felt less than": The role of peers in shifting stigma as a barrier to opioid use disorder treatment retention. Journal of Substance Abuse Treatment, 138, Article 108721.

Bassuk EL, Hanson J, Greene RN, Richard M, & Laudet A (2016). Peer-delivered recovery support services for addictions in the United States: A systematic review. Journal of Substance Abuse Treatment, 63, 1–9. 10.1016/j.jsat.2016.01.003 [PubMed: 26882891]

Bohnert AS, Bonar EE, Cunningham R, Greenwald MK, Thomas L, Chermack S, … Walton M (2016). A pilot randomized clinical trial of an intervention to reduce overdose risk behaviors among emergency department patients at risk for prescription opioid overdose. Drug and Alcohol Dependence, 163, 40–47. 10.1016/j.drugalcdep.2016.03.018 [PubMed: 27062245]

Bonnington O, & Harris M (2017). Tensions in relation: How peer support is experienced and received in a hepatitis C treatment intervention. International Journal of Drug Policy, 47, 221–229. [PubMed: 28606391]

Braun V, & Clarke V (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. 10.1191/1478088706qp063oa

Braun V, & Clarke V (2014). What can "thematic analysis" offer health and wellbeing researchers? International journal of qualitative studies on health and well-being, 9.

Braun V, & Clarke V (2021). To saturate or not to saturate? Questioning data saturation as a useful concept for thematic analysis and sample-size rationales. Qualitative Research in Sport, Exercise and Health, 13(2), 201–216.

Braun V, & Clarke V (2022). Conceptual and design thinking for thematic analysis. Qualitative Psychology, 9(1), 3.

Braun V, & Clarke V (2023). Toward good practice in thematic analysis: Avoiding common problems and be (com) ing a knowing researcher. International Journal of Transgender Health, 24(1), 1–6. [PubMed: 36713144]

Byrne L, Roennfeldt H, Wolf J, Linfoot A, Foglesong D, Davidson L, & Bellamy C (2022). Effective peer employment within multidisciplinary organizations: Model for best practice. Administration and Policy in Mental Health and Mental Health Services Research, 49(2), 283–297. [PubMed: 34478040]

Centers for Disease Control and Prevention. (2023). QuickStats: Rate of Emergency Department Visits for Substance Use Disorders Among Adults Aged ≥18 Years, by Age Group — National Hospital Ambulatory Medical Care Survey, United States, 2018–2019 and 2020–2021. (MMWR, Issue).

Centers for Disease Control and Prevention. (2024). National Center for Health Statistics. Provisional Drug Overdose Death Counts. https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm.

Chen Y, Yuan Y, & Reed BG (2023). Experiences of peer work in drug use service settings: A systematic review of qualitative evidence. The International Journal on Drug Policy, 120, Article 104182. 10.1016/j.drugpo.2023.104182

Collins AB, Beaudoin FL, Samuels EA, Wightman R, & Baird J (2021a). Facilitators and barriers to post-overdose service delivery in Rhode Island emergency departments: A qualitative evaluation. Journal of Substance Abuse Treatment, 130, Article 108411. 10.1016/j.jsat.2021.108411

Collins AB, Beaudoin FL, Samuels EA, Wightman R, & Baird J (2021b). The impact of COVID-19 on service provision for emergency department patients post-opioid overdose: A field report. Journal of Addiction Medicine, 15(5), 432–434. [PubMed: 33201002]

Collins D, Alla J, Nicolaidis C, Gregg J, Gullickson DJ, Patten A, & Englander H (2019). "If it Wasn't for him, I Wouldn't have talked to them": Qualitative study of addiction peer mentorship in the hospital. Journal of General Internal Medicine, 1–8.

D'Onofrio G, O'Connor PG, Pantalon MV, Chawarski MC, Busch SH, Owens PH, … Fiellin DA (2015). Emergency department-initiated buprenorphine/naloxone treatment for opioid dependence:

A randomized clinical trial. JAMA, 313(16), 1636–1644. 10.1001/jama.2015.3474 [PubMed: 25919527]

Felton JW, Abidogun TM, Senters K, Maschino LD, Montgomery BW, Tyson R, … Stoddard SA (2023). Peer Recovery coaches perceptions of their work and their implications for training, support and personal Recovery. Community Mental Health Journal, 59(5), 962–971. 10.1007/s10597-022-01080-z [PubMed: 36595145]

Garvin LA, Greenan MA, Edelman EJ, Slightam C, McInnes DK, & Zulman DM (2023). Increasing use of video telehealth among veterans experiencing homelessness with substance use disorder: Design of a peer-led intervention. Journal of Technology in Behavioral Science, 8(3), 234–245.

Greer A, Bungay V, Pauly B, & Buxton J (2020). Peer'work as precarious: A qualitative study of work conditions and experiences of people who use drugs engaged in harm reduction work. International Journal of Drug Policy, 85, Article 102922.

Hankin A, Daugherty M, Bethea A, & Haley L (2013). The emergency department as a prevention site: A demographic analysis of substance use among ED patients. Drug and Alcohol Dependence, 130(1–3), 230–233. 10.1016/j.drugalcdep.2012.10.027 [PubMed: 23253936]

Kirk MR, Dawkins AD, Wei X, Ajumobi O, Lee LC, Oman R, … Wagner KD (2023). What makes a peer? Characteristics of certified peer recovery support specialists in an emergency department-based intervention. PLoS One, 18(12), Article e0289920. 10.1371/journal.pone.0289920

Langabeer JR, Stotts AL, Bobrow BJ, Wang HE, Chambers KA, Yatsco AJ, … Champagne-Langabeer T (2021). Prevalence and charges of opioid-related visits to U.S. emergency departments. Drug and Alcohol Dependence, 221, Article 108568. 10.1016/j.drugalcdep.2021.108568

Lowenstein M, Perrone J, Xiong RA, Snider CK, O'Donnell N, Hermann D, … Delgado MK (2022). Sustained implementation of a multicomponent strategy to increase emergency department-initiated interventions for opioid use disorder. Annals of Emergency Medicine, 79(3), 237–248. 10.1016/j.annemergmed.2021.10.012 [PubMed: 34922776]

Mamdani Z, McKenzie S, Pauly B, Cameron F, Conway-Brown J, Edwards D, … Woodrow P (2021). "Running myself ragged": Stressors faced by peer workers in overdose response settings. Harm Reduction Journal, 18, 1–19. [PubMed: 33407500]

Manning V, Best D, Faulkner N, Titherington E, Morinan A, Keaney F, … Strang J (2012). Does active referral by a doctor or 12-Step peer improve 12-Step meeting attendance? Results from a pilot randomised control trial. Drug and Alcohol Dependence, 126(1–2), 131–137. 10.1016/j.drugalcdep.2012.05.004 [PubMed: 22677458]

Martin E, & Jordan A (2017). Substance use disorder peer supervision competencies. http://www.williamwhitepapers.com/pr/dlm_uploads/Peer-Supervision-Competencies-2017.pdf.

McGuire AB, Powell KG, Treitler PC, Wagner KD, Smith KP, Cooperman N, … Watson DP (2020). Emergency department-based peer support for opioid use disorder: Emergent functions and forms. Journal of Substance Abuse Treatment, 108, 82–87. 10.1016/j.jsat.2019.06.013 [PubMed: 31280928]

Moullin JC, Dickson KS, Stadnick NA, Rabin B, & Aarons GA (2019). Systematic review of the Exploration, Preparation, Implementation, Sustainment (EPIS) framework. Implementation Science, 14(1), 1. 10.1186/s13012-018-0842-6 [PubMed: 30611302]

National Academy of Medicine. (2024). National Plan for health workforce well-being. T. N. A: Press.

Recovery, U. (2020). Remote peer supervision guide. https://unityrecovery.org/wp-content/uploads/2020/04/Unity-Recovery-Remote-Peer-Supervision-Guide.pdf.

Samuels E (2014). Emergency department naloxone distribution: A Rhode Island department of health, recovery community, and emergency department partnership to reduce opioid overdose deaths. R I Med J (2013), 97(10), 38–39.

Sokol R, Tammaro E, Kim JY, & Stopka TJ (2021). Linking MATTERS: Barriers and facilitators to implementing emergency department-initiated buprenorphine-naloxone in patients with opioid use disorder and linkage to long-term care. Substance Use & Misuse, 56(7), 1045–1053. 10.1080/10826084.2021.1906280 [PubMed: 33825669]

Spagnolo AB, Pratt CW, Jia Y, DeMasi M, Cronise R, & Gill K (2022). The competencies of telehealth peer support: Perceptions of peer support specialists and supervisors during the COVID-19 pandemic. Community Mental Health Journal, 58(7), 1386–1392. [PubMed: 35149961]

Stack E, Hildebran C, Leichtling G, Waddell EN, Leahy JM, Martin E, & Korthuis PT (2022). Peer recovery support services across the continuum: In community, hospital, corrections, and treatment and recovery agency settings – A narrative review. Journal of Addiction Medicine, 16(1), 93–100. 10.1097/adm.0000000000000810 [PubMed: 33560695]

Stanojlovíc M, & Davidson L (2021). Targeting the barriers in the substance use disorder continuum of care with peer recovery support. Subst Abuse, 15, Article 1178221820976988. 10.1177/1178221820976988

Watson DP, Brucker K, McGuire A, Snow-Hill NL, Xu H, Cohen A, … Kline JA (2020). Replication of an emergency department-based recovery coaching intervention and pilot testing of pragmatic trial protocols within the context of Indiana's Opioid State Targeted Response plan. Journal of Substance Abuse Treatment, 108, 88–94. 10.1016/j.jsat.2019.06.002 [PubMed: 31200985]

Watson DP, Staton MD, & Gastala N (2022). Identifying unique barriers to implementing rural emergency department-based peer services for opioid use disorder through qualitative comparison with urban sites. Addiction Science & Clinical Practice, 17(1), 41. 10.1186/s13722-022-00324-3 [PubMed: 35902890]

Watson DP, Weathers T, McGuire A, Cohen A, Huynh P, Bowes C, … Gupta S (2021). Evaluation of an emergency department-based opioid overdose survivor intervention: Difference-in-difference analysis of electronic health record data to assess key outcomes. Drug and Alcohol Dependence, 221, Article 108595. 10.1016/j.drugalcdep.2021.108595

White WL (2009). Peer-based addiction recovery support: History, theory, practice, and scientific evaluation executive summary. Counselor, 10(5), 54–59.

Wilson L, Vannice S, Hacksel C, & Leonard L (2018). Peer worker or client?: Conflicting identities among peer workers engaged in harm reduction service delivery. Addiction Research & Theory, 26(5), 361–368.

Table 1

Participants' demographic characteristics and role in PRC programs.

Demographic characteristics (missing = 8)	**n (%)**
Sex	
Female	21 (68 %)
Male	10 (32 %)
Race	
White	24 (77 %)
Black/African American	7 (23 %)
Hispanic ethnicity	1 (3 %)
Age, mean (SD)	45.8 (10.7)
ED or PRC program role	
Peer recovery coaches	13 (33 %)
Medical doctors managing PRC programs	4 (10 %)
Other medical doctors or residents	9 (23 %)
Behavioral health specialists or counselors	4 (10 %)
PRC clinical supervisors	4 (10 %)
Community-based organizations	3 (8 %)
ED nurse practitioners	2 (5 %)

Table 2

Summary of recommendations to address barriers for PRC program implementation.

Themes and associated barriers/challenges	Recommendations to PRC program managers
Timely linkage of ED patients to PRC programs	• Promote awareness of the PRC program and linkage procedures among ED providers and staff (via regular presentations, in-person introductions, e-mails, newsletters, posters, and other visual cues). • Address drug-related stigma, building trust between ED staff and PRC team (can be part of awareness promotion activities). • Streamline the linkage procedure by introducing a single PRC phone number, adding alerts and consults in electronic medical records. • Establish proactive (“opt-out”) linkage procedures when peer coaches approach patients without waiting for an explicit request from the patient or another healthcare provider. • Station peer recovery coaches in the ED to avoid delays in linkage
Referrals to external services (outside ED)	
Logistical barriers (lack of transportation, phones) to linking patients to community-based services Lack of information on existing services and resources Patients being reluctant or lacking trust in community-based service providers	• Secure funding and other resources to provide transportation and mobile phones to patients in need during referral. • Develop and regularly update a catalog of community-based services. • Establish “warm hand-off’ procedures and “warm lines” to facilitate the linkage process during and outside of work hours. • Facilitate peer recovery coaches' visits and familiarization with local service providers to ensure smooth linkage to services. • Ensure patient follow-up by peer recovery coaches and local service providers to facilitate the linkage process.
Telehealth in PRC programs	• Address logistical barriers to telehealth sessions (availability of telehealth devices, assisting patients in connecting to telehealth sessions). • Ensure patients' privacy during telehealth session. • Train peer coaches on establishing trust and rapport during telehealth sessions.
Peer recovery coaches' workload, quality of services and wellness	• Limit workload in terms of number of hours and caseload. • Prioritize the quality of services over the number of patients served. • Facilitate self-care and peer support to address stress and promote recovery. • Provide opportunities for professional care and therapy for peer coaches in recovery. • Accommodate potential relapses (e.g. paid leave for recovery) • Ensure supportive supervision by trained PRC supervisors who will guide, train and mentor peer coaches, ensure quality of services and advocate for PRC program and peer coaches. • Provide continuous education and training to peer coaches.
Program adoption and sustainment	• Engage the community of people with lived SUD experiences in program design and implementation (e.g. via a Community Advisory Board) • Emphasize the program benefits for patients, ED and hospital while advocating for program adoption among ED leadership. • Enlist support of program champions within and outside ED to advocate for program adoption and sustainment. • Seek diverse and sustainable sources of funding (hospital budget, billing for PRC services, external grants) for the program. • Advocate for structural changes to facilitate the hire and retention of peer recovery coaches (e.g., lifting ban on hiring individuals with criminal backgrounds, equitable pay scale for employees without college degrees).