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The importance of contextually specific support relationships in implementing programs to link people to medication for opioid use disorder (MOUD) treatment during reentry from county jails

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Abstract

Background This study uses the Practical, Robust, Implementation, and Sustainability Model (PRISM) and Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) model to describe how features of jail contexts are associated with the number of people linked to medication for opioid use disorder (MOUD) and sustainment of jail linkage programs implemented in Wave 1 of the HEALing Communities Study in Kentucky (HCS-KY) from 2021 to 22. The HCS-KY is part of a parallel-group, cluster-randomized wait-list controlled trial examining the effects of supporting wide-scale implementation of evidence-based practices to reduce opioid overdose deaths. One strategy involved implementation of MOUD linkage programs within five Kentucky county jails. Minutes from program planning and maintenance meetings led by HCS-KY implementation facilitators with linkage staff/supervisors and jail liaisons/partners (average of five participants/meeting) were coded following PRISM-RE-AIM using template analysis to understand variations in participation across sites as well as barriers to and facilitators of MOUD linkage implementation.

Results Across the five jails, 277 participants met with linkage staff during and/or post-incarceration for 1,119 visits conducted in-person or via phone/video conference. Twenty-six participants linked to community-based MOUD treatment during the implementation period. Participation differed across sites based on jail and linkage staff utilization of implementation support strategies but did not affect program sustainment, which all jails pursued in some form. Qualitative analysis yielded four overarching themes characterizing jail linkage program implementation. First, program integration into jail infrastructure entailed navigation of jail facilities and technologies as well as legal factors surrounding linkage staff backgrounds and information-sharing. Second, adapting the intervention to site-specific needs required providing training and implementation support to jail and linkage staff tailored to each jail context. Third, facilitating inter-organizational and cross-system coordination was related to collaboration successes

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and challenges among the HCS-KY team, linkage staff, the courts, and other provider partners. Finally, staffing and legal factors influenced sustainment.

Conclusions Only ~ 10% of participants linked to community-based MOUD despite intensive implementation support, yet jails highly valued the program and planned for sustainment. Given the complexities in postponing treatment initiation until reentry, we call for simultaneous efforts to integrate MOUD screening and treatment into jail booking processes.

Keywords Implementation science, Implementation support practitioner, Linkage to MOUD treatment, County jails, Opioid overdose reduction, Reentry services, OUD service access and utilization

Introduction

There are enormous gaps in equitable access to high-quality opioid use disorder (OUD) treatment in U.S. correctional facilities. While incarcerated in U.S. county jails, people with OUD typically do not have access to FDA-approved medications for opioid use disorder (MOUD; naltrexone, buprenorphine, and methadone) as recommended by the Bureau of Justice Assistance, National Institute of Corrections, and American Society of Addiction Medicine (Chatterjee et al., 2023; Grella et al., 2022; Scott et al., 2022; Springer, 2024; Sufrin et al., 2023). A 2022-23 national cross-sectional survey found that only 13% of the 1,300 responding jails provided MOUD (Flanagan Balawajder et al., 2024). Being treated with MOUD while incarcerated increases the likelihood of community-based treatment continuity during the challenging re-entry process (Krawczyk et al., 2024; Pourtaher et al., 2024). A recent Rural Opioid Initiative survey of almost 3,000 people who use drugs found that, although 84.9% of recently incarcerated participants reported opioid use, only 17.7% received MOUD treatment in the past month (Hoover et al., 2023). At least 25% of people in jails will be re-arrested within the same year and must often navigate threadbare safety net programs and strained mental health systems during re-entry, in addition to facing contextual barriers to accessing evidence-based OUD treatment (Flanagan Balawajder et al., 2024; Sawyer & Wagner, 2023; Springer, 2024). Considering these factors, consistent implementation of OUD best practices in jails could significantly reduce the negative OUD-related outcomes including overdose death that inequitably burden minoritized and under-resourced communities (Flanagan Balawajder et al., 2024; Larochelle et al., 2021; Moran et al., 2022; Rosales et al., 2022).

Jails vary widely by community in terms of implementation of OUD best practices, financial resources, healthcare provider capacity, and inter-organizational relationships with community-based providers (Carda-Auten et al., 2022; Flanagan Balawajder et al., 2024; Grella et al., 2020; Krawczyk et al., 2022; Scott et al., 2022; Singer & Kopak, 2023). The intricacies of criminal legal system (CLS) processes determining timelines for booking, holding, and releasing people who are incarcerated create formidable obstacles when connecting people leaving jails to MOUD treatment. For people detained who have not yet been sentenced, there is uncertainty around release timing due to unpredictable scheduling of hearings that set bail/bond and sentences/release dates (Bandara et al., 2021; Krawczyk et al., 2022; Matsumoto et al., 2022; Pivovarova et al., 2022; Stopka et al., 2022). Re-entering citizens are often without health insurance, identification, transportation, housing, and/or employment, while jail staff and contracted providers have limited bandwidth to develop individualized community-based treatment plans across public safety and public health contexts (Ferguson et al., 2019; Flanagan Balawajder et al., 2024; Grella et al., 2022; Matsumoto et al., 2022; Scott et al., 2022; Stopka et al., 2022).

To address these challenges with MOUD access in jails, interventions to embed trained navigation staff have been found effective in linking people to community-based substance use disorder (SUD) treatment (Bandara et al., 2021; Grella et al., 2022; Hogue et al., 2024; Matsumoto et al., 2022). Grella and colleagues' (2022) scoping review indicated the effectiveness of linkage interventions in initial engagement in MOUD treatment (including both extended-release naltrexone and methadone), with limited evidence for longer-term retention and medication adherence outcomes; they called for further research to investigate the relative contributions of linkage intervention components and program duration to treatment outcomes, especially in rural areas. A recent article presenting a taxonomy of linkage facilitation domains of practice concluded that successful linkage facilitation requires addressing workforce supervision and self-care as well as organizational leadership, role clarification and integration, and development of formal program infrastructure (Hogue et al., 2024). Thus, it is critical to study implementation models for programs to link people to MOUD treatment as they reenter their distinct community contexts from jails to reduce CLS-related barriers to accessing OUD services (Flanagan Balawajder et al., 2024; Hoover et al., 2023; Krawczyk et al., 2022; Springer, 2024).

The HEALing (Helping to End Addiction Long-term®) Communities Study (HCS) supplied an unparalleled

opportunity to examine the implementation of linkage programs and other opioid overdose reduction evidence-based practices (EBP) in jails and other settings as part of the Communities That HEAL (CTH) intervention (Chandler et al., 2020; El-Bassel et al., 2020; Sprague Martinez et al., 2020; Walsh et al., 2020; Winhusen et al., 2020). Enrolling 67 communities from four states, this parallel-group, cluster-randomized wait-list controlled trial treated communities as clusters, assigning each to either the CTH intervention (Wave 1) or the wait-list comparison group (Wave 2) (Walsh et al., 2020). This qualitative comparative case study explores factors affecting linkage program implementation in three rural and two urban jails in HCS-Kentucky (HCS-KY) Wave 1 communities using the PRISM-RE-AIM framework (Glasgow et al., 2019; Knudsen et al., 2020). We analyze minutes from planning and implementation meetings led by HCS-KY implementation facilitators with linkage staff, their supervisors, and jail liaisons and partners to address these research questions:

1) What features of jail implementation contexts and service delivery experiences are associated with the number of people linked to community-based MOUD treatment?
2) What factors are associated with sustaining linkage programs after the intervention period ends?

Understanding the factors associated with successes and challenges in MOUD linkage implementation and sustainment is crucial in improving access to MOUD treatment and reducing opioid overdose deaths among those with OUD who are incarcerated in jails.

Methods

Study design: HCS-KY linkage program protocol

The CTH intervention, which includes six phases, was implemented in Wave 1 communities from January 2020 to June 2022, with Phase 5 (EBP implementation) beginning in March 2020 for "fast-tracked" efforts related to overdose education and naloxone distribution (Oser et al., 2024) and continuing into 2021. In the CTH's phased approach, community coalitions were charged with prioritizing EBPs for implementation (Young et al., 2022), including MOUD linkage. This paper focuses on MOUD linkage program implementation in HCS-KY Wave 1 partner jails because only HCS-KY funded two local nonprofit organizations to deploy a trained workforce specifically to link people with OUD to MOUD treatment while providing implementation support for these programs. HCS-KY partnered with two community organizations, a nonprofit recovery community organization employing state-certified peer support specialists (PSS), Voices of Hope (VOH) (Moffitt et al., 2024), and a nonprofit healthcare provider employing social workers and nurses, Bluegrass Care Navigators (BCN). VOH and BCN hired and managed these workforces through contracts with HCS-KY. These linkage programs embedded trained linkage staff into jails to provide people detained with individualized pre- and post-release system navigation toward MOUD treatment at reentry, with at least weekly contacts during participants' first month of community-based treatment. Recent reports showed that care navigation may also facilitate linkage and retention in MOUD treatment (Nordeck et al., 2022), and both PSS and navigators have been employed to deliver SUD linkage programs during jail reentry (Grella et al., 2022). As there were no comprehensive training programs specific to MOUD linkage, HCS-KY created these training programs; see Moffitt et al. (2024) for more details on the VOH training and Cook et al. (2025) and HCS-KY and BCN (2024) for the BCN training manual.

Study design: HCS-KY implementation facilitation

HCS-KY employed the implementation strategy of deploying professional staff (implementation facilitators) to provide technical assistance and training to support EBP adoption in jails (Albers et al., 2021; Hogue et al., 2024; Leeman et al., 2017a; Wandersman et al., 2008). Also known as "implementation support practitioners," implementation facilitators use contextually driven configurations of knowledge, skill, and attitudes to support health and human services individuals, agencies, and systems in the adoption and scaling of EBPs for population impact (Albers et al., 2020, 2021; Bührmann et al., 2022; Metz et al., 2021; Metz, Jensen, Farley, & BoaMetz et al., 2022a, b; Powell et al., 2015). Upon coalition approval of the MOUD linkage strategy, implementation facilitators contacted jail leadership to set up an introductory meeting following standard operating procedures (SOPs) designed by the first and senior authors. If jails agreed to move forward, then HCS-KY leadership reviewed structured introductory meeting notes and approved staffing levels for each jail based on their anticipated target populations. Once assigned linkage staff were trained and ready to deploy, implementation facilitators led a meeting to introduce the jail to the linkage staff member/supervisor, co-design referral pathways, and coordinate logistics.

All "jail in-reach" (SAMHSA, 2023) implementations at the HCS-KY site entailed some standard delivery strategies. All potential participants had access to print and digital promotional materials about the linkage program tailored to the communication channels available at each jail, including but not limited to printed flyers posted in communal spaces in jail facilities (e.g., mess halls, waiting rooms, etc.), digital flyers shown when logging into tablets, promotional videos on closed-circuit TVs, and cell-by-cell verbal introductions by jail staff. Potential

participants could self-refer or be referred by jail staff to the linkage staff member; linkage staff also had access to jail software systems to identify potential participants with charges related to substance use for proactive personal outreach. Once identified, linkage staff met with participants individually, in-person, and/or using tablets to provide education on the three FDA-approved MOUD and overdose response with naloxone. Linkage staff coordinated treatment planning with Alternative Sentencing Workers for participants who had a public defender and other community-based health and social service providers. Linkage staff also worked with participants to address barriers to accessing and remaining on MOUD, such as insurance reinstatement, drivers' licenses, food insecurity, transportation, and housing, using county-specific HCS community resource guides (Young et al., 2022). Additionally, linkage staff had access to an HCS-KY barrier relief fund to cover nominal fees and transportation costs inhibiting treatment initiation.

HCS-KY provided additional assistance to ensure linkage staff had appropriate training about the CLS and their specific agency contexts. This support involved a monthly meeting of all CLS-placed linkage staff and supervisors, development of SOPs for linkage program delivery in CLS agencies, and creation of site-specific implementation plans to support linkage staff integration and role clarification (Hogue et al., 2024). Implementation facilitators also regularly connected jail liaisons with each other to share experiences and strategies. Although HCS-KY contracted with BCN and VOH for linkage staffing, interested jails could use implementation facilitation and MOUD linkage training materials to implement linkage programming with existing re-entry coordination staff.

In spring 2022 to plan for sustainment, the implementation facilitator and CLS Project Director met with jail liaisons to review reports summarizing the linkage program, its initial reach, budget estimates for the annual cost of sustaining the program and staffing, and potential sources of funding, including local opioid abatement settlement funds. In summer 2022 based on the success of Wave 1 HCS-KY implementations, VOH secured a two-year contract with the Kentucky Opioid Response Effort (KORE) funded by SAMHSA's State Opioid Response block grant to sustain Wave 1 PSS positions. For jails interested in sustaining PSS, the implementation facilitator led a hand-off meeting including VOH leadership to make the transition. Jails with BCN linkage staff were offered the alternative of a VOH placement funded by KORE because BCN did not have additional funding.

Setting

All eight Wave 1 coalitions prioritized linkage implementation in jails, and five (one rural regional jail, two rural county jails, and two urban jails) successfully implemented linkage services. Three jails did not implement a linkage program because (1) one rural jail declined to participate in planning conversations, (2) an urban jail already had a re-entry program but partnered with HCS-KY and VOH to incorporate a PSS into its contracted aftercare program at a local nonprofit, and (3) an urban jail already contracted with another local recovery community organization to provide reentry services. The average annual census of the five jails with which HCS-KY directly partnered for linkage services varied widely during the HCS jail survey reporting period (July 2021-June 2022), from 2,546 to 19,102. Prior to HCS-KY, none of the five partner jails offered MOUD linkage or MOUD treatment services to individuals incarcerated. Jails A, B, and E selected VOH recovery coaches as their linkage partner, and Jails C and D selected BCN. Jail D reported a preference for BCN as their staff (nurses and social workers) were less likely to have legal records compared to PSS employed by VOH.

Data sources

Data collection and analysis were informed by established methods as articulated in the Standards for Reporting Qualitative Research (O'Brien et al., 2014). Throughout the implementation planning and monitoring period, HCS-KY staff took minutes for every recorded video conference meeting between the HCS-KY team, linkage staff/supervisors, jail liaisons, and jail partners (e.g., alternative sentencing workers, external behavioral health providers, local hospitals), including site-specific check-ins with HCS-KY and linkage staff/supervisors. The dataset comprised 61 total meeting minute documents (see Table 1), with the average meeting lasting 60 min. Meeting minutes followed agendas and structured outlines for consistency. Meeting minutes are an appropriate and useful form of qualitative data for organizational research as real-time records of operations by note-takers whose neutrality and objectivity are assumed as norms in professional cultures (Berglez & Hedenmo, 2023; King & Brooks, 2017; McEachern, 1998). Use of minutes also promotes study confirmability via reflexive analysis of documents produced by the HCS-KY staff members who led and participated in the meetings with the shared goal of increasing linkage program access (Forero et al., 2018).

Linkage participant data were extracted from electronic individual-level data obtained and recorded by linkage staff at each client visit and de-identified before transfer to the HCS-KY research team. Linkage staff collected basic demographic data and interest in MOUD as part of program enrollment. From these records, several jail-level measures were constructed, including date of first linkage participant, total number of linkage enrollments (*enrollments)*, and total number of linkage participant visits (*visits)*. Although both VOH and BCN recorded

Table 1 Contextual variables in jail site characteristics**

Rural/Urban**	Linkage vendor	Linkage staff identity***	Linkage staff lived experience***	Partners in attendance
Jail A – Urban	VOH	Certified peer	Direct	Jailer, alternative sentencing worker, linkage staff, linkage supervisor, external MOUD provider
Jail B – Rural	VOH	Certified peer	Direct	Deputy jailer, alternative sentencing worker, linkage staff, linkage supervisor, external behavioral health provider
Jail C – Urban	BCN	Clinician (social worker)	Remote	Alternative sentencing worker, linkage staff, linkage supervisor, jail programming coordinator, jail captain
Jail D – Rural	BCN	Clinician (social worker)	Remote	Jailer, jail programming coordinator, alternative sentencing worker, linkage staff, linkage supervisor
Jail E – Rural	VOH	Certified peer	Direct	Deputy jailer, home incarceration director, linkage staff, linkage supervisor, local hospital, social service clinician, alternative sentencing worker

* The average annual census of the five jails with which HCS-KY directly partnered for linkage services varied widely during the HCS jail survey reporting period (July 2021-June 2022), from 2,546 to 19,102. Individual jail census numbers are not reported for confidentiality

**Based on 2023 U.S. Department of Agriculture Economic Research Service Rural-Urban Continuum Code (RUCC) Classification

**See facilitator identity and facilitator lived experience domain definitions in Hogue, A., Satcher, M. F., Drazdowski, T. K., Hagaman, A., Hibbard, P. F., Sheidow, A. J., Coetzer-Liversage, A., Mitchell, S. G., Watson, D. P., Wilson, K. J., Muench, F., Fishman, M., Wenzel, K., Martell, S. C. de, & Stein, L. a. R. (2024). Linkage facilitation services for opioid use disorder: Taxonomy of facilitation practitioners, goals, and activities. *Journal of Substance Use & Addiction Treatment*, 157. https://doi.org/10.1016/j.josat.2023.209217

participant interest in MOUD at their first linkage visit, BCN recorded a preferred medication, while VOH only recorded interest in any MOUD (yes/no); BCN data were recoded to indicate interest in MOUD if any of the three specific medications was recorded. Interest in MOUD was then aggregated to the jail-level (*MOUD interest)*. Both VOH coaches and BCN navigators recorded at each visit whether linkage to buprenorphine, methadone, or naltrexone had been made. From these visit-level data, a jail-level variable was constructed regarding whether clients were ever referred to MOUD during any linkage visit (*referrals*). Visit-level data were also used to identify whether clients ever reported to linkage staff that they were currently receiving MOUD after incarceration (*tx recipients)*, which was then aggregated to the jail-level. Data on the date of participant release from jail are not available to determine whether receipt of MOUD was prevented by incarceration beyond the study period, but the HCS-KY linkage program prioritized participants who had not yet been sentenced and/or had lower misdemeanor charges (see Sect. Facilitating inter-organizational and cross-system coordination: *legal factors*), so it is unlikely that continued incarceration disrupted community-based MOUD access. This study is registered on Clinical Trials.gov (NCT04111939) and was approved (Pro000308088) by Advarra Inc., the HCS single-Institutional Review Board.

Analytic plan

HCS draws upon the Practical, Robust, Implementation, and Sustainability Model (PRISM) and Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) model (Glasgow et al., 2019; Knudsen et al., 2020; Oser et al., 2024). For this study, we used template analysis, which is a type of thematic analysis that provides for pragmatic use of deductive codes to address real-world problems driving organizational research (King & Brooks, 2017; Clarke & Braun, 2021). Our template (i.e., codebook) comprised deductive-dominant codes (Hsieh & Shannon, 2005; King & Brooks, 2017) derived a priori from the PRISM-RE-AIM framework that had previously been developed into a codebook for qualitative interviews with community stakeholders. McAlearney and colleagues (2023) provide details about how the codebook was created by 20 researchers collaborating across the four HCS research sites. The first author made minor adaptations to this codebook to fit existing PRISM-RE-AIM codes within the jail context prior to collaborative coding. PRISM codes were applied to meeting minutes covering the implementation planning process, and RE-AIM codes were used with post-implementation notes but were supplemented with relevant PRISM codes; the RE-AIM code definitions included examples of PRISM codes that might be pertinent to each RE-AIM domain. The first author took meeting minutes and led a four-person coding team whose members (two implementation facilitators, a graduate research assistant, and a project director) were immersed in HCS-KY CLS implementation efforts.

The first step of coding entailed applying codes from the PRISM-RE-AIM codebook to the same initial planning meeting document and then discussing decisions and adjusting definitions to achieve consistency. This coding approach prioritized collaboration to gain nuanced, reflexive insights, rather than seeking to reach inter-coder agreement or consensus on specific code application decisions (Clarke & Braun, 2021). The team developed coding guidelines, such as attempting to apply PRISM-RE-AIM codes in non-overlapping ways using inclusion and exclusion criteria, coding at the shortest

possible unit of text without losing context, and considering all codes as tension codes, meaning they can be used to code statements about the presence or absence of a given element. The team continued this iterative collaborative coding process with one linkage staff introduction meeting document and two post-implementation check-in meeting documents to refine the codebook. Then, the team independently coded the remaining meeting minutes in NVivo 12 (Lumivero, 2023). Team members met weekly to discuss and log coding questions and decisions as an audit trail. The first and second authors used NVivo to prepare exploratory reports from matrix-coding of different combinations of PRISM-RE-AIM element codes, most frequently used codes by rural/urban jail status, and most frequently used codes for minutes about jail linkage programs with relatively higher and lower numbers of participants.

Results

Table 1 presents contextual variables characterizing each implementing jail site, including rural/urban status, linkage staff qualifications/experiences, and partner types in attendance at planning and implementation meetings. Table 2 displays the implementation timeline, program participation, and whether and how the linkage program was sustained. Across the five jails, more than 277 individuals *enrolled* in the linkage program (range of 14 to 107 participants), with a total of 1,119 *visits* with linkage staff (for an average of 4 visits per participant), and 144 were *referred* to MOUD at one of these visits. Twenty-six participants were confirmed to have *received MOUD* treatment post-release.

Variations in jail-based linkage program duration and participation

As shown in Table 2, the total duration of HCS-KY linkage program implementation ranged from 7 to 12 months due to varying amounts of time between the introductory meeting and date of implementation (i.e., start date of linkage staff working in the jail and receiving referrals) during which memorandums of agreement (MOA) were executed and staff were hired and trained. Numbers of enrollments, visits, MOUD interest, referrals, and treatment recipients also substantially differed across jails (see Table 2). Although Jail E had the highest total number of enrollments ($n = 107$), this site had the lowest total number of participants expressing MOUD interest during their first session ($n = 20$); other sites did not experience such a large difference in this measure. Referral numbers were between four and 10 times higher than the number of treatment recipients. The number of visits per month of program implementation varied by site from ~ 3 visits/month to ~ 49 visits/month (see Table 2). Jail A and Jail D each had eight confirmed treatment recipients during the

Table 2 Implementation timelines and reach for the wave 1 HCS-KY Jail-based linkage program

Jail Site	Program Implementation Timeline					Program Reach						Sustainment
	Initial Planning Meeting Date	Number of meetings	Implementation Date*	First Participant Enrollment Date	Total # Implementation Months	Total # Participant Enrollments**	Total # Participant Visits	# Enrollments / # Implementation Months	Total # Interested in MOUD at First Session	Total # Ever Referred to MOUD at Any Visit	Total # Confirmed to Have Entered MOUD	Sustained Beyond December 2022?
Jail A	9/23/2021	12	11/19/2021	12/14/2021	7.5 months	46	193	~ 26 visits/month	32	39	8	Yes
Jail B	6/1/2021	10	8/11/21	8/23/2021	10.5 months	53	180	~ 17 visits/month	33	32	3	No
Jail C	4/15/2021	8	11/15/2021	2/28/2022	7.5 months	14	23	~ 3 visits/month	9	10	1	Yes
Jail D	8/10/2021	8	11/30/2021	11/30/2021	7 months	57	346	~ 49 visits/month	39	40	8	No
Jail E	6/29/2021	23	7/6/2021	7/8/2021	12 months	107	377	~ 31 visits/month	20	23	6	Yes

*Start date of linkage staff working with the agency and receiving referrals

**Between one-third and 80% of detainees were eligible for enrollment based on jail reports of annual numbers of detainees with opioid use problems in the annual HCS survey

intervention period, compared with six at Jail E, three at Jail B, and one at Jail C. The relative numbers of participants served by linkage programs did not differ by rural and urban classifications nor by linkage vendor (BCN or VOH). Additionally, higher numbers of enrollments, visits, referrals, and treatment recipients did not seem to affect whether a jail sustained their linkage program.

Program implementation through the lens of PRISM-RE-AIM

The top-six most frequently used PRISM-RE-AIM codes were *adopter training and support*, *interorganizational efforts*, *services and access*, *systems and training*, *trialability*, and *legal factors* (see code definitions in Table 3). Matrix-coding showed these top-six codes often were double-coded with each other. Data segments labeled with the top-six codes were sorted into where they occurred in the linkage implementation sequence from initial program integration into jail infrastructure (Sect. Integrating the intervention into the jail infrastructure: *services and access* & *systems and training*) and adaptation to site-specific needs (Sect. Integrating the intervention into the jail infrastructure: *legal factors*) to facilitation of inter-organizational and cross-system coordination (Sect. Adapting the intervention to site-specific needs: *trialability*) and program sustainment (Sect. Facilitating inter-organizational and cross-system coordination: *adopter training and support*); distinct legal factors were salient in most phases (see Table 3 for conceptual relationships between PRISM-RE-AIM codes and four sequential phases). Across phases, analysis showed that a key difference between linkage programs with higher (Jails A, D, and E) and lower (Jails B and C) numbers of participants served was their relative uptake and utilization of HCS-KY-facilitated implementation strategies in navigating complicated cross-sector coordination.

Integrating the intervention into the jail infrastructure: *services and access & systems and training*

While HCS-KY's partner jails offered some level of OUD-related programming, this is only one of their many responsibilities. Jail infrastructure is not designed for OUD service delivery either physically or practically, as most spaces must serve multiple purposes, are overcrowded, and have specific security requirements for different classifications of people in custody. Therefore, enabling linkage staff to interact with participants required the development of jail-specific implementation strategies based on the availability of technology, physical space, and other programming labeled with the *systems and training* and *services and access* codes.

Technology

Technology was essential to linkage program enrollment. MOAs typically included funding for jails to purchase a computer compliant with security policies for linkage staff to use while in the facility. These computers gave linkage staff protected access to facility management software, such as eJails and Jail Tracker, to identify potential clients based on charge type, recency of booking, and housing status for personal outreach. Three jails provided tablets displaying information on the linkage program and made a video communication app available to linkage staff for promotions and participant meetings. In a planning meeting, Jailer A said, "We do video visitation, and everyone has tablets. A message could be placed on the tablet to generate referrals (coach says: this is what I do), and inmates then request the opportunity to meet with the coach (processed by [deputy jailer]). It is challenging to share videos because of programming issues. The messages can include images and PDFs as attachments, so a palm card could be used for this purpose. [Implementation facilitator] already has sent [deputy jailer] the GIF graphics." Linkage staff could use barrier relief funds to pay for the fees charged to clients accessing technology within the jails by contracted communications providers. Access to communication technology is critical for planning linkage to community-based providers, as it is helpful if potential patients complete intake procedures while incarcerated to promote smooth transitions to treatment post-release.

Space management

Linkage staff needed access to different areas of jail facilities to interact with potential and enrolled participants. In Jails A and E, which had higher participant numbers, linkage staff were allowed full access to both secured and non-secured areas, while in Jails B, C, and D, linkage staff had limited access to secured areas without jail staff escort, although the Jail D linkage staff was given a walkie-talkie to help jail staff facilitate their movement and bring participants to meetings in their office. In Jail B, linkage staff had a small office on the non-secured side but shared their participant meeting space on the secured side with attorneys, mental health providers, and virtual court hearings, which created challenges with scheduling. Jails B and C, the sites with fewer participants, had particularly strict COVID-19 protocols that led to regular lockdowns disrupting in-person service promotions and delivery. In Jail A, the linkage staff regularly went cell-by-cell through the jail with a liaison to promote the linkage program while providing overdose education and advertising SMART recovery meetings.

Table 3 Operational definitions of key PRISM-RE-AIM codes by implementation phase

Implementation sequence phase	PRISM-RE-AIM domain	Element	Codebook definition	Example meeting minute quotes
Initial program integration into jail infrastructure	PRISM: Intervention – perspective of the organization (jail)	Services and access	Relates to discussion regarding the client receiving linkage services, including referral pathways (i.e., how people who are incarcerated join the program).	"We do video visitation, and everyone has tablets. A message could be placed on the tablet to generate referrals (coach says: this is what I do), and inmates then request the opportunity to meet with the coach (processed by [deputy jailer]). It is challenging to share videos because of programming issues. The messages can include images and PDFs as attachments, so a palm card could be used for this purpose. [Implementation facilitator] already has sent [deputy jailer] the GIF graphics."
	PRISM: Recipient characteristics – jail and people incarcerated	Systems and training	Refers to discussions of infrastructure supportive of linkage programming already in place pre-HCS implementation.	"[Linkage staff] may want to come in and visit the group meetings (AA, church groups) to introduce themselves. GED will start up on Monday, and it would be great if [linkage staff] could join. Moral Reconation Therapy classes will start soon with [jail captain]…When [jail captain] starts teaching again, [linkage staff] will go with them to all meetings."
	PRISM: External environment	Legal factors	Mention of legal and liability issues related to linkage program implementation in jails	"Not acceptable backgrounds [for linkage staff are] violence, sexual offenses, no history in the specific facility."
Adaptation to site-specific needs	PRISM: Intervention – perspective of the organization (jail)	Trialability	The ability to try the program; discussion of the plan for implementation. Code when discussion relates to integrating the intervention into organizational functioning or staff duties.	"As part of the booking process, inmates could be asked about their interest in recovery support services, which could be flagged in eJails. The recovery coach could log in, check in on favorites of people who have been booked in last 48 hours, and see who has been trained for Narcan and is interested in recovery support services."
Facilitation of inter-organizational and cross-system coordination	PRISM: External environment	Inter-organizational efforts	Related to inter-organizational networks' relationship quality, value, and trust. Code for organizations working with the intervention other than HCS team (e.g., vendor linkage staff).	"The jail needs to review contracts with medical and mental health providers that could conflict. They particularly need to review the agreement with [non-profit provider] to make sure there isn't overlap; they say most people who complete [non-profit provider] program are doing it to see how it improves their sentence. HCS-KY volunteered that we would be happy to speak with [non-profit provider], and we could start the BCN program only with people who are not [non-profit provider] participants."
	PRISM: Implementation and sustainability infrastructure	Adopter training and support	Related to discussions about HCS support for implementation and/or sustainability, particularly in regard to HCS training and supporting agency staff and vendors. See "Ability to meet jail needs" if not related to training and support.	"[Implementation facilitator] wanted to be sure that there is an open line of communication between HCS/VOH/jail because this environment is very different ([linkage staff] is in basement office near detox unit), so they talked about doing weekly check-ins about how to help/support and ensure jail is taking care of their requirements. For example, [linkage staff] Jail Tracker login was discontinued. [Implementation facilitator] reached out to [jail liaison] via text who said it would be taken care of."
	PRISM: External environment	Legal factors	Mention of legal and liability issues related to linkage program implementation in jails - includes discussion of MOUs and release of information.	"[Linkage staff] doesn't mind getting the bed held and then calling back if it can't work, but [linkage staff] feels like sometimes [public defender] has own their ideas about when someone is eligible v. they think are eligible, if they have SUD at all. [Linkage staff] said they have to be able to do what's best for the client at the time – they had a participant who overdosed last week even though [linkage staff] had found two beds open for him. [Linkage staff] believes they should fight as hard as they can to get them into treatment so nothing bad happens and that's why [linkage staff] always pushes. [Linkage staff] understands that [public defender] may have another idea or want to wait but while the client waits, they suffer."
Program sustainment	PRISM: Recipient characteristics – jail and people incarcerated	Staffing concerns	Refers to constraints on staff time and ability to facilitate linkage programming. Potential for double-coding with Trialability. Includes child codes of jail staff concerns (when staffing concerns relate to strain on jail/correctional staff), medical staff concerns (when staffing concerns relate to burdens of medical staff within the jail), and vendor background concerns (relates to concerns about the background of the vendor assisting with MOUD linkage).	"So, what I don't want to do is have a big break in coverage and all that, so if you all can come up with a temporary fix and I can help, I will, but also stress that when I signed the contract I fulfilled my part. We need to get [linkage staff] back in here because if there's a huge break, there's no sense in starting it back because the inmates are going to lose faith in it."
	PRISM: External environment	Legal factors	Mention of legal and liability issues related to linkage program sustainment, e.g., staff background	"MOUD linkage could be at zero because of all of the hoops associated with getting on them from the client perspective. [City] is a 'whole different country' when it comes to MOUD, despite the presence of [treatment] facilities, and coming out of a detention center, it's harder to persuade clients to pursue MOUD. There are major issues with court and probation officers not supporting MOUD treatment. It is both court bias against MOUD and patient perceptions that MOUD is a 'risky' choice while working their cases because it will be perceived unfavorably."

Notes. This table includes only codebook definitions for the PRISM-RE-AIM elements referenced herein that were interpreted as key codes relevant to the study's research questions; there were 44 total PRISM-RE-AIM element codes defined for this study's codebook and applied in the analysis

Existing programming

Linkage staff also benefitted from sharing information about the linkage program through existing classes and jail staff members' knowledge of residents' needs. In Jail D, the linkage staff member partnered with the captain managing jail programming to offer linkage presentations before/after existing classes. Jailer D said, "[Linkage staff] may want to come in and visit the group meetings (AA, church groups) to introduce themselves. GED will start up on Monday, and it would be great if [linkage staff] could join. Moral Reconation Therapy classes will start soon with [jail captain]…When [jail captain] starts teaching again, [linkage staff] will go with them to all meetings." The Jail A and Jail D linkage staff presented at quarterly jail staff meetings and luncheons. Some jail liaisons and programming staff also referred potential participants they thought might benefit by providing their names and jail ID to linkage staff. Generally, the sites with fewer participants provided linkage staff with more limited access to the facility and offered fewer linkage program promotional and referral opportunities than the more expansive access and promotional/referral support afforded to linkage staff at the sites with more participants.

Integrating the intervention into the jail infrastructure: *legal factors*

Legal factors also required dedicated facilitation effort during the implementation planning process to ensure compliance with facility background check/security policies, establish MOAs, and secure approval of release of information (ROI) processes. Linkage staff were required to complete jail-specific Prison Rape Elimination Act (PREA) and security awareness trainings to understand policies for interactions with people incarcerated, what is deemed contraband, and other facility safety topics before entering secured areas. Jails C and D had more restrictive background check requirements than other sites, which seemed to influence their preference for BCN given that VOH recovery coaches often had legal records. Jail C's captain stated that "not acceptable backgrounds [for linkage staff are] violence, sexual offenses, no history in the specific facility." Although legal factors like MOAs, ROIs, and background checks and security did not differentially impact program participation, they indicate the complexity of linkage implementation in jail settings.

Adapting the intervention to site-specific needs: *trialability*

Once linkage programs became operational, jail sites collaborated with their HCS-KY implementation facilitators and linkage staff to integrate the intervention into organizational functioning or staff duties on a time-limited basis for the remaining CTH intervention period, which is the codebook definition of *trialability. Trialability* often was double-coded with the other top-six codes across all sites (see Sect. 3.2) and highlighted implementation facilitator efforts to ensure collaboration and communication, such as text-messaging rather than emailing to schedule meetings and developing plans for iterative review of workflows by all partners. For example, in a Jail A planning meeting, this excerpt was coded with *trialability* and *interorganizational efforts*: "[Implementation facilitator] will make some tweaks before they send the workflow to [linkage staff]. Then [linkage staff] and [frontline provider partner] will work on creating adaptations. [Frontline provider partner] will then share the workflow with [provider partner leadership] for additions and changes. [Linkage staff] will include everyone on the email when they send the revised workflow back." These strategies, along with monthly meetings of all CLS-placed linkage staff and supervisors with their implementation facilitators, supported effective collaboration among the HCS-KY team and jail liaisons to try the intervention on a time-limited basis; as described in Sect. 3.6, challenges typically arose in coordinating with the courts.

Jail A's experience is paradigmatic of *trialability* because of the jailer's early and continued vision of the HCS-KY partnership as an opportunity to test process changes that could incorporate linkage into his facility's existing programming. Jailer A immediately established linkage staff facility access and office/participant meeting space, appointed his chief deputy as liaison, and provided linkage staff access to Wi-Fi and eJails; the jailer suggested during a planning meeting, "As part of the booking process, inmates could be asked about their interest in recovery support services, which could be flagged in eJails. The recovery coach could log in, check in on favorites of people who have been booked in last 48 hours, and see who has been trained for Narcan and is interested in recovery support services." Over the implementation period, he worked with the 24-hour contracted medical team to create intake screening protocols triggering referral to linkage staff, incorporated a question about interest in recovery support services into the eJails booking process, ensured the liaison followed up on tablet messages inquiring about linkage services, and placed linkage promotions and HCS-KY community resource guides in bags of reentry materials included in the jail's transportation program. HCS-KY, linkage staff, and the jailer created an incentive structure to encourage participation in SMART meetings that the jailer funded with his commissary resources; for example, after attending two SMART meetings, participants received a candy bar, and each cell with someone who attended five SMART meetings received an extra 30 min of TV time. Linkage staff also supplied "letters of completion" documenting SMART meeting participation for CLS agencies

(e.g., probation officers, attorneys) on behalf of clients. Linkage staff successfully partnered on referrals with a MOUD provider that began offering XR-NTX injections at the jail during the implementation period. This implementation site faced challenges related to linkage staff turnover (see Sect. Sustaining linkage programs after the intervention period: *legal factors* and *staffing concerns*), but this barrier did not diminish their program's participant engagement.

Facilitating inter-organizational and cross-system coordination: *adopter training and support*

Adopter training and support, with "adopters" comprising both the jail and their embedded linkage staff, was a top-six most frequently used code within meeting minutes only among sites with relatively more participants. Implementation facilitators and linkage supervisors co-facilitated regular check-ins with linkage staff to help troubleshoot problems as they arose and provide general support, recognizing that for individuals with lived experience, the jail environment can evoke past traumas and emotions. For instance, in Jail E meeting notes, "[implementation facilitator] wanted to be sure that there is an open line of communication between HCS/VOH/jail because this environment is very different ([linkage staff] is in basement office near detox unit), so they talked about doing weekly check-ins about how to help/support and ensure jail is taking care of their requirements. For example, [linkage staff] Jail Tracker login was discontinued. [Implementation facilitator] reached out to [jail liaison] via text who said it would be taken care of."

Linkage staff at sites with fewer participants (Jails C and D) were less engaged with adopter training and support than staff at the sites with more participants due to individual differences in outgoingness, initiative, and capacity. To boost participation, several post-implementation Jail C meetings involved the implementation facilitator, jail liaison, and linkage staff supervisor brainstorming *services and access* strategies, including presentations during classes and jail staff meetings, informational emails to jail staff, promotional distribution during booking and with personal belongings at release, and postcard mailing to potential participants identified in Jail Tracker, that the linkage staff member did not follow through on despite performance management with their supervisor. The linkage staff member in Jail B was more successful in using digital technology to communicate with participants and staff but struggled to use face-to-face implementation strategies to generate referrals and convey program value to jail staff because they were more reserved; in personal communication, the Jail B captain told the implementation facilitator that this staff member was not a good fit for the role. These linkage staff did not fully implement recommended strategies to improve enrollment, which highlights how variability in workforce characteristics may influence participant engagement in linkage programs in jails where enrollment requires outreach and recruitment. Ideally, linkage to treatment should also be embedded within the medical screening processes for OUD during booking to initiate or maintain MOUD while people are incarcerated and promote continuity of care.

Facilitating inter-organizational and cross-system coordination: *inter-organizational efforts*

HCS-KY linkage staff are not the only vendors delivering OUD-related services in these jails, so inter-organizational efforts impacted implementation. In some instances where jails had multiple contracted partners providing resources to their residents (e.g., mental health, medical case management), the HCS-KY CLS Project Director and implementation facilitators held cross-agency meetings with probation, legal representation, and community-based providers to ensure effective communication. For example, halfway into the intervention period, a nonprofit healthcare system received a Health Resources and Services Administration (HRSA) grant to fund community liaisons, including one covering Jail E, to provide reentry resources through referrals to targeted case management and PSS for outpatient medical and behavioral healthcare, pregnancy and parenting resources, and transportation and food insecurity. The HCS-KY team organized several meetings to develop a workflow for coordinating participant referrals, discharge planning, and ROI between the linkage program and HRSA-funded community liaisons via regularly scheduled cross-agency case staffing meetings. The Jail E inter-organizational effort was fruitful, with 24 referrals received by the healthcare provider from linkage staff within three months of collaboration.

For the sites with fewer participants, existing OUD-related services may have "crowded out" the newer HCS-KY linkage program from the jails' bandwidth for inter-organizational program delivery. In Jail C, jail leadership mentioned during initial planning meetings their need to review current contracts with at least three other providers to prevent duplication and their desire for the HCS-KY linkage program to supplement their array of established reentry programming. The meeting notes state: "The jail needs to review contracts with medical and mental health providers that could conflict. They particularly need to review the agreement with [non-profit provider] to make sure there isn't overlap; they say most people who complete [non-profit provider] program are doing it to see how it improves their sentence. HCS-KY volunteered that we would be happy to speak with [non-profit provider], and we could start the BCN program only with people who are not [non-profit

provider] participants." The Community Mental Health Center contracted with Jail B offered robust services from a clinical provider, targeted case manager, and PSS who provided at least 40 incarcerated clients with behavioral health treatment and linkage to MOUD treatment at release. Although HCS-KY offered implementation strategies similar to those of Jail E, linkage staff engagement with the Jail B behavioral health provider did not generate substantial referrals.

Facilitating inter-organizational and cross-system coordination: *legal factors*

Cross-system coordination with court personnel was required for clients who had not yet been sentenced, which entailed partnership with Alternative Sentencing Workers (ASW) embedded in Kentucky public defender offices to develop individualized treatment service plans to present to the court in lieu of incarceration. The HCS-KY team met with the state-level ASW program supervisor and worked with linkage supervisors to develop a coordination workflow that prioritized linkage staff assisting clients with lower charges (i.e., misdemeanors, which often involve short jail stays with home incarceration and/or probation before sentencing) so that ASWs could focus on more complicated felony cases.

At each jail, implementation facilitators led an introductory meeting of the ASW and linkage staff member to review the co-designed workflow. At some sites, this collaboration was smooth and enhanced MOUD treatment planning in court; in Jail D (a site with relatively more participants), the linkage staff member was a former ASW and immediately began coordinating with her jail's assigned ASW to secure alternative sentences; she also offered several Q&A sessions on how to collaborate with ASWs during monthly cross-site linkage staff meetings. In Jail E, the linkage staff member expressed frustration to the public defender about their office's unresponsiveness to his attempts to coordinate alternative sentence planning for clients who had not yet been sentenced. The linkage staff member had lived experience of OUD while incarcerated and was passionate about ensuring treatment access; in a meeting with the ASW, they said they "don't mind getting the [treatment] bed held and then calling back if it can't work, but [linkage staff] feels like sometimes [public defender] has own their ideas about when someone is eligible v. they think are eligible, if they have SUD at all. [Linkage staff] said they have to be able to do what's best for the client at the time – they had a participant who overdosed last week even though [linkage staff] had found two beds open for him. [Linkage staff] believes they should fight as hard as they can to get them into treatment so nothing bad happens, and that's why [linkage staff] always pushes. [Linkage staff] understands that [public defender] may have another idea or want to wait but while the client waits, they suffer." Despite efforts by the implementation facilitator, state-level ASW supervisor, and linkage supervisor to coach the linkage staff member through communication issues with the ASW, the linkage staff member resigned when his supervisors made clear he would need to accept the decisions of public defenders/ASWs about what plans would be presented in court. Still, Jail E was undeterred in supporting the linkage program and desired implementation assistance with the transition to new linkage staffing.

Comparing the inter-organizational efforts of jail linkage programs indicates that agency misalignments did not necessarily reduce linkage program participation. Instead, in Jails A and E where there was limited existing reentry infrastructure from contractors, the HCS-KY linkage program offered unduplicated services to reentering citizens, which jails supported despite at least two linkage staff resignations per site during the implementation period. The continuity of implementation facilitation helped buffer the unique, valued services of the Jail A and E linkage programs against staffing disruptions. In Jails B and C, established providers seemed to occupy jail bandwidth to coordinate programming, although most existing services were limited to specific populations (e.g., people who had already been sentenced, a capped number of participants at any given time).

Sustaining linkage programs after the intervention period: *legal factors* and *staffing concerns*

As detailed in Table 2, higher participation numbers were not necessarily associated with whether sites sustained their linkage programs after the intervention. Although the staffing concerns code was not frequently used overall, its interaction with legal factors significantly shaped sustainment planning. First, during the final six months of the implementation period, BCN's insurance carrier made a liability adjustment that denied coverage for providers serving clients who "have the inmate title next to their name," including via telehealth. The BCN linkage staff working in CLS settings were transitioned to the university payroll, but the time involved with the employer change disrupted linkage services for several months; Jailer D was so upset with the suspension that he threatened to pursue action for a breach of the MOA to provide linkage during the study period, saying, "So, what I don't want to do is have a big break in coverage and all that, so if you all can come up with a temporary fix and I can help I will, but also stress that when I signed the contract I fulfilled my part. We need to get [linkage staff] back in here because if there's a huge break, there's no sense in starting it back because the inmates are going to lose faith in it." The BCN staff member returned to the facility for a few additional months, but ultimately, the

position was not sustained because the jailer did not want to accept KORE-funded PSS due to their potential previous CLS involvement. The Jail D fiscal court has since requested from HCS-KY the navigator job description and salary to pursue local abatement funding to restore the position.

Additionally, jailers desired assistance from the HCS-KY team in explaining the linkage program to county officials, with two jailers even inviting the implementation facilitator and linkage staff to present at fiscal court meetings. Finally, Jails A and E experienced at least two linkage staff members' resignations, but this turnover did not diminish their interest in sustainment. When Jail E's first linkage staff member resigned, the jail liaison requested an exit interview to make sure the facility had done everything they could to support the position. During this conversation, the linkage staff member explained that despite their relatively high enrollment numbers, community-based "MOUD linkage could be at zero because of all of the hoops associated with getting on them from the client perspective. [City] is a 'whole different country' when it comes to MOUD, despite the presence of [treatment] facilities, and coming out of a detention center, it's harder to persuade clients to pursue MOUD. There are major issues with court and probation officers not supporting MOUD treatment. It is both court bias against MOUD and patient perceptions that MOUD is a 'risky' choice while working their cases because it will be perceived unfavorably." However, neither lower program participation and MOUD linkage numbers nor staffing disruptions lessened jailers' interest in pursuing sustainment.

Discussion

Implementation factors associated with MOUD linkage

This comparative study offers insights into implementation factors associated with successful MOUD linkage after release from jail and the sustainment of jail-based linkage programs. The number of enrollments, visits, and referrals greatly outpaced the low number of participants with confirmed linkage to MOUD treatment ($n = 26$ across all five sites), indicating the need for longer time horizons to embed complex cross-system EBPs in the CLS sector (Rao et al., 2021; The HEALing Communities Study Consortium, 2024). Qualitative analysis underscored the importance of implementation strategies to engage potential participants; compared with programs with fewer participants, the more successful sites afforded linkage staff greater access to facilities and promotional and referral opportunities; had linkage staff who were more engaged with implementation facilitation to integrate services into jail operations; and had less inter-organizational competition for jail programming bandwidth. COVID-19 and other lockdowns may have affected linkage staff engagement. Findings affirm the variability and complications in MOUD treatment access for people detained in jails who have not yet been sentenced, both in terms of logistical planning for erratic release dates and support for alternative sentencing to MOUD treatment among court and community supervision personnel (Andraka-Christou & Atkins, 2020; Bandara et al., 2021; Grella et al., 2020; Krawczyk et al., 2022; Matsumoto et al., 2022; Pivovarova et al., 2022; Richard et al., 2020; Stopka et al., 2022).

Factors associated with linkage program sustainment

HCS-KY partner jails were eager for assistance with designing, implementing, and sustaining MOUD linkage programs. Based on previous research, it might be assumed that stigma among CLS professionals against CLS-involved people and MOUD treatment could have undermined initial and continued support from jail leadership and staff for linkage programming (Belenko et al., 2018; Grella et al., 2020; Mitchell et al., 2016; Moore et al., 2022, 2023; Pfaff et al., 2024). Yet, although sites achieved varying levels of participation during the intervention period, all five jails pursued sustainment in some form; three jails accepted partnership with VOH to continue linkage with KORE state funding; one jail incorporated HCS-KY linkage materials into their collaboration with another recovery community organization; and another jail declined VOH partnership but requested HCS-KY support with obtaining local abatement funding to restore the social worker position. The intensive implementation support required to establish jail linkage programs exemplifies HCS' broader conclusion that the study timeframe was too short to detect the impact of EBP integration in health care, behavioral health, and CLS sectors (The HEALing Communities Study Consortium, 2024). However, HCS funding, training, and implementation support were valued by jails and provided proof-of-concept for the VOH application to KORE and Jail D's fiscal court to sustain Wave 1 linkage staffing. Thus, sustainment planning helped jails and linkage vendors make the case for continued local and state government investment in linkage programs in the context of severe underfunding of OUD best practices in jails (Hoover et al., 2023; Krawczyk et al., 2022).

The importance of context-specific implementation facilitation

While all sites pursued sustainment in some form, jail linkage programs seemed to engage more participants sooner if their jail and linkage staff were able to enact implementation support strategies offered by implementation facilitators. Changes to agency practice entail shifting the habits, rituals, identities, motives, self-regulations, and relationships of individuals and groups

(Albers et al., 2020; Kwasnicka et al., 2016). This case study exemplifies the functions of implementation facilitators, which have been variously described as coaching, consultation, facilitation, technical assistance, knowledge brokering, change management, improvement advising, and mentorship. Regardless of terminology, implementation facilitators "make implementation happen," as opposed to letting or helping implementation happen, via their placement in active expert support roles in EBP implementation processes to assist overtaxed agency staff (Bührmann et al., 2022; Greenhalgh et al., 2004; Metz et al., 2021). Implementation facilitators are equipped both to integrate new EBP delivery staff into existing agency workforces and to coach and train agency staff to incorporate EBP strategies into their workflows.

The HCS-KY implementation facilitators strategically combined the implementation strategies of providing consultation/facilitation, providing education, conducting local needs assessments, promoting network weaving, identifying and preparing champions, organizing implementation team meetings, and tailoring strategies (Albers et al., 2021; Powell et al., 2015) to embed linkage programming into five distinct jail sites. There were varying capacities among jail and linkage staff to use these strategies, operationalized as activities including facilitating legal processes like MOAs, ROI, and background checks; assisting linkage and jail staff with employing technology, managing physical space, and leveraging existing programming to promote and deliver linkage services; developing SOPs, a linkage staff/supervisor community of practice, and cross-jail connections to share information and troubleshoot operating linkage programs in unique jail contexts; convening inter-organizational conversations to prevent in-jail programming overlap and court system miscommunication; and coordinating staffing and sustainment transitions. The HCS-KY team facilitated 61 meetings across the five jails examined in this study, demonstrating that although implementation of jail linkage programs is possible, significant time and effort are required to enact implementation strategies.

As an informal support complementing staff supervision, implementation facilitation can help respond to the toll of working in jail environments for linkage staff, particularly PSS who have been found to experience stigma and role confusion when delivering behavioral health support in CLS settings (Adams & Lincoln, 2021; Ibrahim et al., 2020; Vandewalle et al., 2016). This study corroborates findings of barriers to employing PSS in CLS contexts because of background requirements, public health vs. public safety values, and the instability of PSS funding (Adams & Lincoln, 2021). A fundamental value of PSS and the recovery paradigm is individual self-determination, but behavioral health PSS placed in CLS settings have characterized the CLS as dehumanizing and punitive, with inter-organizational turf battles further impairing service delivery (Adams & Lincoln, 2021). Three of the five HCS-KY jail implementation sites employed PSS, whose vital lived experience and expertise with incarceration in jails also made the implementation setting more triggering and frustrating when judges and attorneys did not support treatment in their adjudication of linkage participants' cases. Linkage facilitation in jails presents inherent contextual challenges to linkage staff (Flanagan Balawajder et al., 2024; Hogue et al., 2024) that should entail offering multifaceted technical and relational support for these staff, their supervisors, and jail personnel.

Taken together, the demand for CLS-specific implementation facilitation evidenced in this study's jail sites validates workforce development for implementation practice as a "grand challenge" in health and human services (Leeman et al., 2017b; Mallidou et al., 2018; Metz et al., 2021). Implementation facilitation is critical for successful EBP implementation as CLS agencies struggle to maintain staffing due to turnover (Clements & Kinman, 2021; Vickovic et al., 2022). This study's findings reinforce calls to invest in building the implementation support practitioner workforce and their competencies in terms of technical skills (e.g., data management, improvement cycles, needs assessments) and relational skills (e.g., building trusting relationships, brokering roles and connections, negotiating power differentials and conflicting demands) applied to diverse cross-system implementation contexts (Albers et al., 2020; Metz et al., 2021; Metz, Jensen, Farley, Boaz, Metz et al., 2022a, b). Members of the HCS-KY team continue to provide implementation facilitation to sustained jail partners and other agencies in Kentucky integrating EBPs into existing staff responsibilities and workflows in support of evidence-based use of opioid abatement funds.

Limitations

There are several limitations to this study. First, sampling encompassed highly impacted rural and urban communities prioritized through the CTH intervention's cluster-randomization design, so findings reflect the CLS context in Kentucky, where access to MOUD treatment in jails is not mandated. Additionally, the focus of the HCS-KY partnership was gaining access to sites from elected jailers and county officials and co-designing implementation strategies to integrate the linkage program into carceral operations. Due to their lack of decision-making authority as external consultants, implementation facilitators had limited leverage to press jail leadership for the engagement of people who are incarcerated in developing implementation strategies (Metz et al., 2021). In addition to curtailing our ability to detect the effects of HCS EBP implementation, the short study timeline placed

the imperative for efficient EBP start-up, which limited the ability to gather participant perspectives. Moreover, HCS-KY cannot access vendors' identifiable linkage program data to conduct assessments with program participants. Further research is needed to understand the experiences of people who are incarcerated with linkage program implementation. Third, because of the implementation facilitators' prolonged engagement with jails, meeting minutes data were not supplemented with formal jail liaison interviews to reduce study burden. Ongoing longitudinal assessment of the reach and impact of sustained HCS-KY jailed-based linkage programs and other OUD best practice implementations in jails are needed.

Conclusions

Currently, local and state governments are investing their limited jail funding in inadequate OUD services without comprehensive MOUD treatment (McGladrey et al., 2024). Jails are increasingly facing U.S. Department of Justice prosecution for violations of the Americans with Disabilities Act for failing to continue MOUD treatment or initiate it when clinically indicated (Alsan et al., 2023; Sinkman & Dorchak, 2022; South et al., 2023). We conclude that the substantial resources required to implement MOUD linkage programs in jails reinforce the need for implementation support for the full continuum of OUD best practices. Linkage program enrollment should occur at entry as jail medical providers conduct validated behavioral health screenings and comprehensive assessments for MOUD initiation/continuation and other treatment (Substance Abuse and Mental Health Services Administration, 2023), rather than relying on linkage staff to use scarce jail infrastructure for promotion of and referrals to the linkage program. Care navigators and PSS can then reserve their efforts for providing linkage services to participants identified and "recruited" through universal clinical screening and treatment. Furthermore, overlapping inter-organizational efforts can be aligned around in-jail MOUD infrastructure to prevent duplication of efforts.

This study's findings amplify calls to enact state mandates as well as allocate funding and implementation support to not only MOUD linkage programs but also MOUD initiation and maintenance for all people with OUD who are incarcerated in jails, especially those with brief lengths of stay (Hoover et al., 2023; Krawczyk et al., 2022). In an August 28, 2023, meeting of the Kentucky General Assembly task force for jail and corrections reform, task force co-chair Representative Josh Bray repeated the adage when talking about jails that "if you've seen one county, you've seen one county." This paper substantiates previous research concluding that even with funding and state mandates, the U.S. will need a well-developed implementation facilitation workforce to support MOUD linkage and treatment integration into each U.S. jail's unique context (Krawczyk et al., 2022; McGladrey et al., 2024; Pivovarova et al., 2022).

Supplementary Information

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Supplementary Material 1

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Author contributions

Conceptualization: MM, CBO, SLW, HKK, MB; Data curation: MM, HKK, MB; Formal analysis: MM, HKK, MG, MB, SS, HM; Funding acquisition: SLW; Investigation: MM, SLW, CBO, MG, SS, HM; Methodology: MM, SLW, CBO, HKK, MRL, LF, AFB; Project administration: MM, SLW, MRL, CBO, DAO, LF; Resources: MM, CBO; Software: N/A; Supervision: MM, SLW, CBO; Validation: MMVisualization: MM; Writing – original draft: MM; Writing – review & editing: MM, HKK, SLW, CBO, MRL, DAO, MG, LF, AFB, MB, SS, HM.

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Data availability

The datasets generated and analyzed during the current study are not publicly available because they contain information that could identify participating jail partners but are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

This study protocol (Pro00038088) was approved by Advarra Inc., the HEALing Communities Study single Institutional Review Board.

Competing interests

AFB is a co-founder of Voices of Hope.

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