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Implementation and formative evaluation of a peer-led chemsex intervention targeting sexualised crystal methamphetamine and GHB use: the M3THOD study

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Abstract

Background Gay, bisexual and other men who have sex with men (GBMSM) who use crystal methamphetamine and gamma hydroxybutyrate (GHB) in sexual contexts (otherwise known as chemsex) report barriers to accessing health services. Peer-led chemsex interventions may reduce barriers to care and provide meaningful therapeutic support, however, there have been few formal evaluations of such programs. M3THOD is a novel peer-led intervention based on the transtheoretical model of behaviour change comprising elements of harm reduction education, motivational interviewing and service navigation. In this formative evaluation we appraise the acceptability, appropriateness, and feasibility of M3THOD.

Methods M3THOD aimed to support people to reduce chemsex-related harm, manage frequency of chemsex and access specialist services. The acceptability, feasibility and appropriateness of this service were assessed. We collected data from peers' field notes and conducted 33 semi-structured in-depth interviews. These were conducted with intervention clients ($n=15$), eligible community members who did not receive an intervention ($n=9$), M3THOD peer workers ($n=3$) and their managers ($n=2$) and partnering clinicians ($n=4$). A thematic framework method was used to analyse data.

Results M3THOD demonstrated acceptability among all stakeholders and was deemed appropriate, with the caveat that peer workers should be supported to operate within a framework of structured flexibility to dually ensure safety and person-centred care. Most participants reported dependence on crystal methamphetamine and desired ongoing rather than one-off peer support. M3THOD's feasibility was contingent on robust support for training, technical support, and pastoral care for peers, and strong clinical partnerships and referral pathways.

Conclusions M3THOD was valued by participants with unique information and support needs often unmet by sexual health, mental health and drug and alcohol services and reported that peers' personal experiences of chemsex facilitated rapid rapport, validated and mitigated clients' shame around chemsex. Our formative evaluation indicated

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that a peer intervention addressing chemsex is acceptable, appropriate, and feasible in contexts sufficiently resourced to provide substantial support for peer workers. Hiring a team of peer workers, providing training, ongoing coaching, monthly clinical supervision and establishing supportive relationships with co-located counsellors were said to enable the safe and effective delivery of this peer-led chemsex service.

Keywords Chemsex, Gay and bisexual men, Peer interventions, Crystal methamphetamine, GHB, Formative evaluation

Introduction

Overview

This paper presents a formative evaluation of M3THOD, a peer-led intervention addressing the sexualised use of crystal methamphetamine and gamma hydroxybutyrate (GHB). M3THOD was developed and implemented by ACON, a community health organisation for sexuality and gender diverse populations in New South Wales (NSW), Australia. M3THOD was delivered by three peers with living experience of sexualised use of crystal methamphetamine and/or GHB and was informed by the transtheoretical model of behaviour change [1]. The intervention's components included harm reduction education, motivational interviewing, and service navigation and this formative evaluation of M3THOD examines acceptability, appropriateness, and feasibility. Although community based and peer-led chemsex programs are now implemented internationally [2–8], few are described in the peer-reviewed literature, and to our knowledge, none to date have specifically examined interventions against early implementation outcomes [9].

Our paper begins with an overview of the chemsex literature, followed by a description of the M3THOD program and a presentation of key findings. The aims, theoretical foundations, and implementation strategies of M3THOD were informed by the authorship team's prior scoping review of peer-led interventions for gay, bisexual, and other men who have sex with men (GBMSM) between the years 2000 and 2020 [10]. To supplement the insights derived from this scoping review, we conducted searches across major health databases (MEDLINE, Scopus, Embase, CINAHL, and PsycINFO) and grey literature via Google Scholar, using terms such as chemsex, sexualised drug use, crystal methamphetamine, GHB, GBMSM, and services or interventions. Because the M3THOD intervention aimed to improve wellbeing at an individual level, the literature cited largely approaches chemsex through a health lens. Consequently, this paper does not extensively engage with scholarship addressing the social, cultural, and political dimensions of chemsex [11].

Chemsex background

The practice of sexualised use of crystal methamphetamine and GHB among GBMSM has been widely researched [12, 13]. A variety of terms such as chemsex, party and play or PnP are used to describe this practice; however, globally chemsex is the most widely used term [14] and will be used throughout this paper**.** Empirical studies that explore chemsex among GBMSM report that it may occur in domestic settings, at parties and at sex venues [15], involve sex with one or several partners, and involve sex often characterised as expansive in both duration and behaviour [16]. Drivers for chemsex relate to pleasure [17], coping with minority stress [18], the facilitation of connection [19], and alleviation of loneliness [20].

Drugs used to facilitate sex vary between cities and regions globally [12, 13], for example the practice is primarily associated with the use of crystal methamphetamine, GHB and mephedrone in the UK [21], whereas mephedrone is scarcely present in Australia [22, 23]. Australian cross-sectional surveys show that within the previous six months, nearly 10% of GBMSM report the use of crystal methamphetamine while slightly more than 10% report recent use of GHB [24]. Over 80% of this use is reportedly to enhance sex [25, 26]. With regard for the regional variability of drugs used in chemsex contexts, Strong et al. helpfully categorise chemsex drugs into three groups: (i) Drugs most frequently described as initiating sexual interaction, being crystal methamphetamine, GHB and mephedrone. (ii) Drugs involved in chemsex but only in certain countries, such as ketamine, ecstasy and finally (iii) drugs like amyl nitrite and erectile dysfunction medication, which although commonly used alongside chemsex drugs, do not elicit sustained sexual arousal on their own [24–27].

Benefits, harms and harm reduction

Studies on chemsex often describe participants' careful use of harm reduction strategies to maximise benefits and minimise risks [19, 28]. In their systematic meta-ethnographic review of 23 qualitative studies on chemsex and harm reduction, Hawkinson et al. observed that GBMSM apply harm reduction practices at individual, interpersonal, and community levels [29]. Their analysis identified eight common domains of harm reduction, these included: personal preparation; maintaining personal boundaries; biomedical measures such as pre-exposure prophylaxis; structured drug use; relying on partners for moderation and support; safer injecting

practices; group organising and collective moderation; and finally teaching or learning [29].

Owing to the harm reduction strategies outlined above, many GBMSM who practice chemsex do not experience unmanageable harm [21]; however, the potential to experience adversity across multiple domains of wellbeing is well documented in the chemsex literature. Studies have explored chemsex and HIV transmission risk [30, 31], a risk mediated by the introduction of biomedical HIV prevention, such as PrEP, in Australia and other countries [26, 32, 33]. Research has also documented acute harms relating to overdose [19, 21, 25], accidents and emergencies [34], and crystal methamphetamine associated psychosis [35]. Other demonstrated harms include adverse impacts on mental health [12, 13, 36], negative impacts on employment outcomes [34, 37], and the experience of sexual violence [38, 39]. Although the potential adverse experiences associated with chemsex must be recognised, research also shows that many individuals experience benefits [40]. For example, studies conducted among GBMSM living with HIV have reported that those practicing chemsex have better mental health outcomes by comparison to those not practicing chemsex, with this attributed to the sense of community and peer connection fostered through chemsex [41, 42]. Moreover, regarding sexual wellbeing, research indicates that the sexualised use of drugs can indeed facilitate gratifying, exploratory, and ultimately beneficial sexual experiences [19, 43].

Chemsex interventions

The potential to experience chemsex-related harm, underscores the need for tailored, person centred, chemsex interventions and services. There is a substantial body of empirical research exploring chemsex [12, 13, 29]; however, research on chemsex interventions has not been as widely conducted. In their systematic review of chemsex interventions, Incera-Fernandez et al., identified a total of 12 studies, mostly conducted in high-income western nations, with goals aligned with harm reduction or reduced drug use [9]. Overall, this systematic review concluded that while available interventions demonstrated efficacy, the interventional evidence base is limited with a paucity of available treatment options [9]. Studies focussed on chemsex services or interventions have included evaluations of specialist counselling services [44, 45], group-based interventions [8, 46], motivational interviewing [47], contingency management [48, 49], and online [50] or text message [51] psychoeducation programs. Tailored chemsex interventions have demonstrated positive effects against outcomes including frequency of substance use [45, 47], severity of crystal methamphetamine dependence [44], mental health [44], and HIV risk behaviours [45, 47, 50, 52].

The information and support needs of GBMSM engaged in chemsex may not be met by alcohol and other drug, sexual health and mental health services for the general adult population (hereafter mainstream services). While many services provide excellent care to people who use drugs, service providers may be unfamiliar with the nuanced information and support needs of GBMSM engaged in chemsex [14]. GBMSM who practice chemsex and experience harm may not access drug and alcohol services for fear of judgement and a perception that services lack appropriate expertise [21, 53].

Conversely, the chemsex support needs of GBMSM may be well met by peer-led interventions [10, 54–56]. Peer interventions may be defined as protocolised interventions delivered by individuals who do not have formal qualifications, but share lived experience or identity characteristics with recipients [57]. Marginal populations such as GBMSM who use drugs, may experience barriers to accessing conventional health services [37]. The mutuality of a peers' identity or lived experiences may help to reduce barriers to care and facilitate rapid therapeutic rapport [37]. The effectiveness of peer interventions addressing HIV prevention, testing and treatment among GBMSM is well established [10], and peer interventions have demonstrated effectiveness among diverse populations of people who use drugs [58, 59].

Several community-based and peer-led responses to chemsex are operative across contexts globally [2–8] but these are rarely formally documented and evaluated [9, 27]. Responses delivered by community organisations focus on harm reduction education [27, 60], including group-based programs [27, 61] and one-on-one talking therapies [62]. These interventions may be impactful. However, the theories that underpin them, the processes associated with their implementation and the experience of peers who deliver them and clients who receive support, are unknown. Despite frequent calls for peer-led chemsex interventions [10, 27, 54], we are not aware of any research that has been conducted to explore their implementation in practice. Furthermore, few studies have reported their effectiveness, notably only two interventions included in the Incera-Fernandez systematic review were peer-delivered [7–9].

Implementing M3THOD

This paper outlines the implementation of 'M3THOD', a chemsex intervention delivered by the community organisation ACON, (formerly the AIDS Council of New South Wales). M3THOD was initially implemented as a one session peer-led, brief intervention based on the transtheoretical model of behaviour change [1]. M3THOD enabled peers to deliver harm reduction education, motivational interviews, and service referrals for GBMSM who practice chemsex.

In this paper, we detail M3THOD's protocol alongside an analysis of implementation data drawn from semi-structured interviews and peer field notes. We used the Implementation Research Logic Model (IRLM) at the stage of analysis to map M3THOD's context and throughout our analysis we considered how contextual determinants shaped M3THOD's implementation [63]. We positioned M3THOD as a novel intervention and evaluated it against early-stage implementation outcomes of acceptability, appropriateness, and feasibility [64]. Our aim in conducting this formative evaluation was to inform the replicability of M3THOD in other settings while also informing the ongoing adaptation of M3THOD within ACON.

Methods

Intervention overview

M3THOD had three aims, the first aim was to increase recipients' understanding of chemsex harm reduction strategies. Harm reduction strategies include the use of sterile drug use equipment, sexual consent communication, overdose response and strategies to safely prepare for and recover from an occasion of chemsex [19, 29, 38, 65, 66]. The second aim of M3THOD was to support recipients to manage their chemsex practice with a focus on reducing the frequency of crystal methamphetamine and GHB use in the context of chemsex. The third aim of M3THOD was to facilitate access to appropriate clinical services.

Throughout our formative evaluation period (May 2022 to May 2023), M3THOD interventions were delivered by peer workers, defined as peers because they were GBMSM with living experience of chemsex. The term living experience is used to denote the fact that M3THOD peer workers reported a current rather than historic practice of chemsex. The peers selected to deliver the M3THOD intervention represented diversity with regards to HIV status, age and cultural background. As outlined in Appendix A, peers received training to deliver the intervention. This training addressed intervention administration, content and ethical considerations in peer interventions. Peers also received education and ongoing supervision relating to appropriate boundaries in peer work. Peers delivered one-on-one counselling sessions informed by the transtheoretical model of behaviour change [1]. The transtheoretical or 'stages of change' model was chosen because of its extensive use in drug use interventions [67] and because the stages of change model was perceived to usefully guide peers to identify clients in pre-contemplation, contemplation, preparation action or maintenance stages and stage match to provide an appropriate intervention. Guided by stages of change theory, peers were trained and supervised by clinicians with expertise in motivational interviewing and chemsex, to meet client needs by flexibly delivering diverse intervention components including harm reduction education (predominantly for clients in precontemplation) as well as motivational interviews (a counselling technique designed to enhance motivation to change) to support clients in contemplation, preparation, action or maintenance stages. Finally, peers also provided service navigation for clients at the preparation, action or maintenance stages of change. A detailed outline of the intervention is available in Supporting Information Appendix A, which uses the Template for Intervention Description and Replication (TIDieR) checklist for complete intervention reporting [68].

As outlined in Fig. 1, our IRLM [69] for M3THOD was developed and delivered by ACON and was supported by clinicians within ACON's onsite counselling team. ACON has delivered a specialist drug and alcohol counselling service for sexuality and gender-diverse people for over 12 years [70]. This team sits within a large client services division that includes psychologists and social workers. ACON's Substance Support counselling team provides up to 12 free counselling sessions and predominantly works with GBMSM experiencing adversity in relation to their sexualised use of crystal methamphetamine. The service has demonstrated effectiveness at reducing clients' frequency of crystal methamphetamine use and improving clients' mental health outcomes; however, the service often operates at capacity and clients may also experience long wait times [70].

In addition to receiving ad hoc support from ACON's drug and alcohol clinicians, M3THOD peers received external clinical supervision once per month in a group session conducted via telehealth, lasting 90 minutes. Clinical supervision was delivered by a counsellor with extensive experience working with GBMSM on subjects relating to sexuality, substance use, HIV and relationships. Clinical supervision was delivered with the primary intention of supporting peer wellbeing and secondary intentions of developing technical skills, supporting intervention aptitude and consistency and fostering team building.

Evaluation outcomes

M3THOD is a novel single site intervention. As outlined in Fig. 1, our formative evaluation focused on early-stage implementation outcomes, acceptability, feasibility and appropriateness, rather than later stage implementation outcomes. We defined these outcomes in alignment with the seminal definition of implementation outcomes provided by Proctor et al. [64]. Acceptability was understood as the perception among implementation stakeholders that the intervention is agreeable, palatable, or satisfactory. We defined the term intervention stakeholders broadly, including M3THOD's target population, people

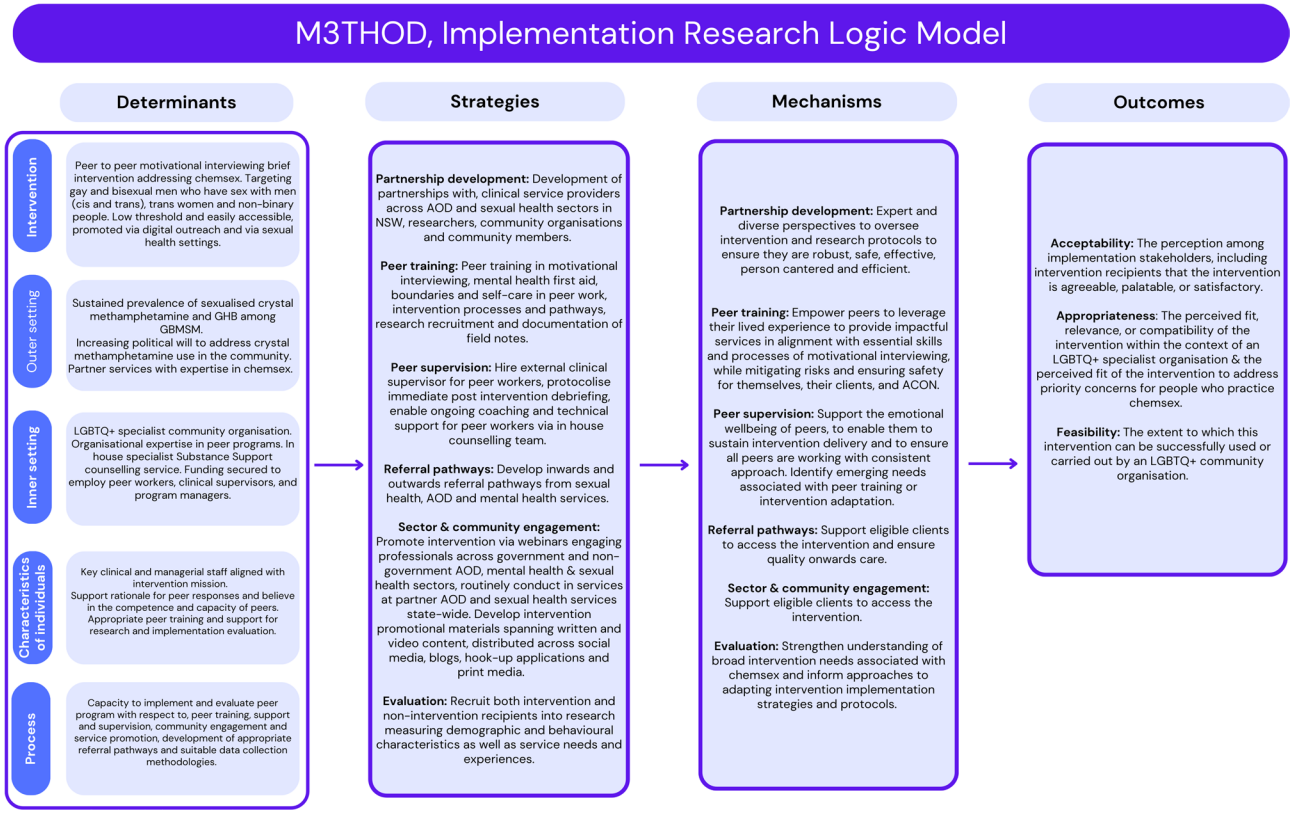

Fig. 1 outlines how M3THOD's implementation was also supported by partnership development, peer training and the development of referral pathways and in-service sessions to inform drug, alcohol and sexual health services sectors in NSW about the availability of the program

in receipt of the intervention, peer workers, program managers, and clinicians providing chemsex counselling services within ACON. We defined appropriateness as stakeholder perceptions on the fit, relevance, or compatibility of M3THOD for ACON's setting and clients; and the perceived fit of M3THOD to address the priorities of M3THOD clients. Feasibility was defined as the extent to which M3THOD could be successfully carried out by peers with living experience of chemsex and within ACON's setting, with specific attention paid to ACON's external setting, internal resources and staffing capacity. In our analysis, we aimed to characterise how M3THOD's determinants, strategies, and mechanisms influenced the acceptability, appropriateness, and feasibility of the intervention and to identify priorities for the adaptation of M3THOD, which continues to be delivered at ACON.

Recruitment

Our study recruited 24 community members and nine M3THOD staff members, who were responsible for delivering the intervention.

Eligible interview participants recruited from the community identified as cisgender or transgender GBMSM, transgender women and non-binary people, living in NSW and reporting sexualised use of crystal methamphetamine or GHB in the previous three months. Community members were recruited to either the M3THOD research or the M3THOD peer intervention through partnering drug and alcohol or sexual health services, through targeted advertising on ACON's social media channels and targeted internet hook-up apps and sites for GBMSM (e.g. Grindr and Recon). Digital advertising directed participants linked to a website where they could independently consent to participate in either the M3THOD research or to receive a M3THOD intervention. Those who received a M3THOD intervention were later invited to participate in a M3THOD research interview. A total of 39 people who received a M3THOD intervention between May 2022 and May 2023 were invited to participate in the M3THOD research interview. A total of 15 consented to be interviewed and were interviewed. A total of nine participants who participated in a research interview had not received a M3THOD intervention before their interview. These numbers are reflected in Table 1, included below.

In addition to the recruitment of the 24 community members described above, nine staff members who were working on the implementation of M3THOD were recruited to be interviewed. A purposive sampling

Table 1 Demographic and behavioural characteristics of M3THOD interview participants recruited from the community ($n=24$)

Gender	Cisgender male 22	Trans male 1	Non-binary 1		
Sexuality	Gay 21	Bisexual 3	Queer 1		
Age	18 – 29 2	30 – 39 4	40–49 8	50 – 59 4	60 + 6
Ethnicity	Caucasian 21	Asian 3	Latinx 1		
HIV Status	Negative 18	Positive 6			
Employment	Employed 20	Unemployed 4			
Used crystal methamphetamine in last 3 months	Yes 24				
Received a M3THOD intervention	Yes 15	No 9			
Injected crystal methamphetamine in last 3 months	Yes 19	No 5			
Frequency of crystal methamphetamine use in last 3 months	Most days 5	At least weekly 5	At least monthly 9	Less than monthly 5	
SDS for crystal methamphetamine use > =4	Yes 18	No 6			
Used GHB in last 3 months	Yes 15	No 9			
Frequency of use among those who used in the last 3 months?	At least weekly 4	At least monthly 6	Less than monthly 3	Once 2	

strategy was used to recruit M3THOD staff, and interviewed staff were selected for their proximity to the M3THOD intervention. Of the staff recruited to the study, three were M3THOD peers, three were clinical team members within ACON's Substance Support counselling team, one was M3THOD's external clinical supervisor, and two were M3THOD service managers. These people were selected for participation because they each had a defined role in supporting the implementation of M3THOD. All nine staff members who were invited for an interview, consented, and participated in an interview. All participants provided informed written consent, witnessed by the first author.

Data collection

Upon enrolment in the study community member participants completed a survey that collected demographic and behavioural characteristics relating to chemsex. In addition, semi-structured interviews were carried out both in person and via online video call. Interviews with the 24 community participants lasted 60 to 90 minutes and followed an interview guide. The interview guide explored four broad topic areas, (i) life circumstances and wellbeing, (ii) trajectories, patterns, and narratives of chemsex, (iii) perceptions and experiences of M3THOD and (iv) perceptions and experiences of other chemsex support services.

Interviews with the nine staff who support M3THOD including M3THOD peers, their managers and partnering clinicians similarly lasted between 60 to 90 minutes and explored professional histories, their role in the peer intervention and their experiences and perceptions of the peer intervention. Interviews were conducted by the first author (JF), a researcher with expertise in the development, implementation and ongoing management of drug and alcohol, sexual health and peer-led services for sexuality and gender-diverse populations. The 24 participants who were interviewed from the community were remunerated with a $50 voucher and the nine participants who were M3THOD staff, were not remunerated for their participation in the research interview.

Additionally, between May 2022 and May 2023, M3THOD peers recorded field notes after delivering an intervention. A total of 43 field notes were recorded via an online form on which peers documented their intervention activities and reflected on the quality, benefits, and challenges of individual interventions. These field notes were included in our data analysis.

Data analysis

Data from interviews were professionally transcribed verbatim and data from field notes were imported into NVivo 14. All data were anonymised with any identifying details removed. Data were analysed in accordance

with the framework methodology as outlined by Spencer & Ritchie [71]. In alignment with the framework methodology, the first author familiarised himself with the data by reading field notes and transcripts prior to coding. After reading all qualitative data, the first author coded the data into nodes and sub-nodes. This initial coding was reviewed by the second author who worked with the first author to extract and analyse de-identified data pertaining specifically to the M3THOD intervention. Data pertaining to the M3THOD peer intervention were coded against an a priori framework aligned to the implementation outcomes acceptability, appropriateness, and feasibility as defined by Proctor et al. [64]. At the outset of this deductive coding exercise, the first two authors mutually clarified their understanding of these implementation outcomes and coded select transcripts against acceptability, appropriateness and feasibility themes. Where there were divergences in coding, these were discussed to form consensus. Divergences in coding often related to interpretations of data in relation to the themes of acceptability and appropriateness. Once divergences had been discussed and data were coded against implementation outcomes, the first two authors discussed their interpretations of data relating to acceptability, appropriateness and feasibility. From these discussions the authors devised subthemes using sub-nodes in NVivo14. The subthemes devised are described in detail under the acceptability, appropriateness and feasibility headings of our results section. All authors supported the interpretation and reporting of the key findings reported in this paper.

Where field notes or quotes from peers, clinicians or service managers were included in the final manuscript, interpretations were shared with relevant team members to ensure accuracy and suitability for publication. Participant data were anonymised at the stage of data analysis. Names are reported using pseudonyms.

Reflexivity

JF is a cisgender gay man with lived experience of substance use and, as such, effort was taken to explain the difference between the research interview and the peer intervention at the outset of each interview. JF was dually employed by both ACON and the University of New South Wales and was transparent about his employment with all participants and JF took steps to mitigate biases prior to interview by encouraging honesty, clarifying his role in relation to the formative evaluation of the intervention and confirming research confidentiality and anonymity. In their writing on 'insider research', Asselin et al. recommend insider researchers reflect on prior knowledge, attitudes, and assumptions before data collection [72]. The first author followed this practice before conducting M3THOD Study interviews, which, together with the interview guide, supported neutral questioning. While the first author's familiarity with the intervention facilitated trust, rapport, and the sharing of rich data, it also risked biasing data collection and analysis. To address this, the first author reflected on assumptions using NVivo memos, and engaged in supervisor debriefs and peer discussions, all of which supported ongoing reflexivity.

Ethical approval

This research was approved by UNSW Human Research Ethics Committee, approval number HC210304.

Results

Among the 24 community interview participants nearly all were cisgender GBMSM and 18 were classified as dependent on crystal methamphetamine having scored = > 4 on the Severity of Dependence Scale [73, 74] and most reported currently injecting crystal methamphetamine. Most community interview participants were born in Australia. Table 1 outlines the demographic and behavioural characteristics of community members (not employed peers or other staff) who participated in a M3THOD interview.

Acceptability

Participants in receipt of the M3THOD intervention overwhelmingly emphasised that they valued the intervention for the opportunity that it afforded to have an honest and non-judgmental conversation about their experience of chemsex with someone with relevant lived experience. This opportunity was framed as both profoundly beneficial but also unique. Most clients reported that they had never discussed chemsex with friends, family, or other service providers.

The experience of minority stress among GBMSM who engage in chemsex is well documented [18, 75], and some participants reported that their experience of stigma associated with age, race, HIV status, and drug use heightened their sense of social isolation and impacted their ability to seek support around chemsex. When reflecting on M3THOD, these clients valued the credibility and safety afforded by a peer's lived experience.

> *"I've lived a lot with a lot of stigma in my life. I've been HIV positive since 1984. And I've also had a couple of bouts of Hepatitis C, and there's a huge stigma attached to that. So, the taboo of talking about, openly about chem use and the stigma against that, you just shut down. So, to talk to a peer… that safe place to talk… just helps self-reflection and getting your head around it."*
> *–Trent, M3THOD client, aged in his 60s*

Trent's experience was affirmed by M3THOD peer Angus, a peer worker who noted a high degree of isolation among those in receipt of the M3THOD intervention.

> *"These people … they don't have anyone else to talk to about their experiences. They can't go to their wholesome friends… because they'll feel judged. They can't go to a healthcare professional because they feel judged. They can't talk to their other chemsex friends because they're just the good-time girls: hard to have meaningful conversations when you're high. And so, they're kind of stuck in their own world, in their own thoughts, thinking, "Oh, my God. My use is out of control. I don't know what I'm going to do."*
> *– Angus, peer worker interview*

The intervention was appraised as acceptable among those who received it. However, nine participants had not received the intervention before interview. Of these nine, four reported that they supported the intervention in principle but simply did not feel that they needed it. These four men also reported minimal chemsex-related harm and were not compelled to engage with M3THOD peers to learn about harm reduction, reporting that they had learned chemsex harm reduction through conversations among their peers and via online research. One participant wished to access M3THOD but had confidentiality concerns relating to legal proceedings. Another participant reported that he was adequately supported by another service. Two learnt about the service via the research interview and later went on to access it. One participant (Luca) reported that he could not speak to a M3THOD peer because of his internalised shame around chemsex.

> *"I wouldn't access those services, and I think the reason is that I have a deep sense of shame connected to my use…"*

The first author later followed up this statement by asking Luca:

> *JF: "Does the peer component of the service alleviate that shame at all or not?"*
> *"No, it doesn't touch the sides at all…. It doesn't touch the sides because like the kinds of things that you'd need to be able to talk about for that to be effective, I just, I would really struggle."*
> *– Luca, community interview participant aged in his 30s*

Clinicians working with ACON's Substance Support counselling service were accepting of the peer intervention and acknowledged that the intervention may meet the diverse therapeutic needs among their clients.

> *"The peer can obviously be more about the lived experience perspective. And that, obviously, can really help someone as well… your client might need more than therapy."*
> *– Curtis, clinician interview*

Although clinicians reported acceptability, it was reflected that the traditional siloing of peer and clinical services presented barriers to the referral of counselling clients to M3THOD peer workers. Alex noted:

> *"It's very hard I think for there to be an integration between sort of peer and, and clinical work – what we call clinical work."*
> *– Alex, clinician interview.*

Later they said:

> *"That's probably where some of the tension is as well… it's a bit of a mystery for us… you know, we don't have a clear sense of what that conversation is that a peer has with a client."*
> *– Alex, clinician interview*

Clinicians demonstrated a regard for risks when working with clients presenting with distinct complexity and vulnerabilities. In turn, the clinicians' ability to accept the peer intervention seemed to be contingent on the peer intervention being appropriately transparent. Transparency was served by meaningful peer and clinician integration which was narrated as establishing trust in peer workers. Alex reported overall support for M3THOD. They noted that their close working relationships with M3THOD peer workers were strengthened throughout implementation and facilitated bi-directional benefits for peers and clinicians. Alex's sentiments were echoed by another clinician, Dean, who noted a shift in his perception of M3THOD after working closely with M3THOD peers on a short-term project.

> *"The work they do does have a level of depth and understanding which I didn't really appreciate before, to be honest."*
> *– Dean, clinician interview*

In Alex's and Dean's accounts, acceptability was contingent on transparency and trust in peer workers. This transparency and trust needed to be built through a concerted effort to achieve a close clinician and peer integration.

Many reflections on the acceptability of M3THOD prioritised the impact of the intervention on peers. Peer workers like Kevin appraised the positive impact of M3THOD on their health and wellbeing.

> *"I think it's facilitated my recovery, and by 'my recovery' I don't mean I'm completely drug-free these days… like we mentioned earlier, it gave me a strong sense of purpose. It's required me to be responsible and accountable daily. And I think this can be a life-changing job for a lot of people in the community… So, it really is a privilege to work in this position. And I think knowing that my organisation is on my side and my lived experience is valued to whatever degree that has really helped me to like take ownership of my drug use, take ownership of my trauma, my, all kinds of experiences in the past and just move on."*
> *– Kevin, peer worker interview*

Managers and partnering clinicians observed that throughout M3THOD's implementation, peers had developed confidence, professional skills, and personal maturity. M3THOD peers spoke about the intrinsic rewards associated with supporting people from their communities while reflecting on their increased skills, confidence and financial stability.

Appropriateness

Stakeholder viewpoints on the appropriateness of M3THOD traversed reflections on intervention content, the identity and lived experience characteristics of peers and M3THOD's brief intervention protocol.

Intervention content

The content discussed in the M3THOD intervention was appraised as relevant and therapeutically beneficial. Clients reported that through M3THOD they learned about chemsex harm reduction, managing triggers, maintaining boundaries, and setting goals around reducing the frequency of chemsex. As intended, clients were often referred to local clinical services with appropriate chemsex expertise as well as social groups, community activities, and volunteering opportunities.

Between May 2022 and May 2023, M3THOD peers recorded field notes for a total of 43 occasions of service. Peer field notes indicate that 23 occasions of service addressed harm reduction and 41 included a motivational interview. In relation to harm reduction, several clients who were either younger or new to their practice of chemsex, valued the intervention for insights generated in relation to personal safety. This perspective was shared by Michael:

> *"I feel like it really helped me understand the world of crystal and GHB, and how I can use it safely. And just know when to say no. So, know when to say no: it's not clean, I can't have it. It has to be a clean needle. Or just, just have it, you know, only on my days off or…You know, say okay, it's 6 am: that's it. I'm gonna go home and sleep, you know. Have some food. Have some water, you know. And, also, learn to have, learn to actually drink and actually have food."*
> *Michael, M3THOD client aged in his 20s*

With acknowledgement that people who practice chemsex can experience barriers to accessing care, one of M3THOD's aims was to help clients access appropriate services via peer-led service navigation. Peer field notes demonstrate that across 20 separate deliveries of the M3THOD intervention, peers supported clients with referrals to other services. The positive impact of this activity was discussed by Dimitri:

> *Dimitri: "As a result of being involved in that process, I've since reached out to a couple of psychotherapists for an initial consultation to discuss some of the issues that I have disclosed here, that lead me to, you know, perform that activity."*
> *JF: "You say that was a result of the conversation with the M3THOD peer?"*
> *D: "Yeah. I don't think I would have, I don't … I don't think I would have reached out to those psychotherapists, or I wouldn't, I wouldn't have known who they were, because a short list of them was recommended by the M3THOD peer."*
> *Dimitri, M3THOD client aged in his 40s*

Most clients reported that peers' disclosures of their lived experience fostered understanding, safety, affirmation and mitigated a sense of loneliness or isolation. This perspective was shared by Richard, a client who attended the M3THOD intervention after extensive engagement with other counsellors and psychologists.

> *"He talked a lot about his own experience as well and that was reinforcing to know that, you know, what I was doing, what I was thinking, how I'd behaved wasn't unusual … When I've had counselling sessions in the past, some counsellors have obliquely referred to that. But, you know, obviously, it's not about them. It's about me… I think that peer relationship is a different relationship. Whilst it's still a professional relationship, it's more about shared experiences… And so that can be very validating in terms of being able to say, 'Oh, okay. Alright. Well, someone else has experienced that.'"*

Richard, M3THOD client aged in his 60s

As evidenced in peer field notes and in the quotes shared by Michael, Dimitri and Richard (above), most deliveries of the M3THOD intervention seemingly adhered to M3THOD's primary intervention components. However, when reflecting on the appropriateness of M3THOD's content, M3THOD peers and their managers spoke about a tension between working within the intervention scope while observing processes of person-centred care [76]. A commitment to person-centred care was emphasised by Kevin:

"The type of work that M3THOD tries to do is to really kind of allow clients to be in the driver's seat, to sometimes confront them with reality and asking them, 'What do you want to do? What is your goal?' Like, 'I'm hearing that you are not ready to give up sex and drugs completely. Then what is acceptable? What is ideal?' And I think those things also shapes what M3THOD is, self-determined. It has so much autonomy."
– Kevin, peer worker interview

Gabriel also noted the tensions inherent in the approach that Kevin describes (above):

"As much as we try and keep the intervention within the confines of the options that we offer, inevitably, because we're talking about our drug use, other things are gonna come up."
– Gabriel, service manager interview

In most instances where clients wished to discuss content outside of M3THOD's protocolised remit, the therapeutic benefit of these conversations was appraised positively. For example, Rohan reflects on his discussions about the intersection of his identity and chemsex:

"I've had a lot of issues with earlier in my life around identity. And I feel like a lot of my drug use started out related to my identity and trying to smother it. That stuff I was able to talk about in that peer-support session, and it was really useful to actually talk about how someone's identity, their own lack of acceptance of identity can lead to drug use. And I've never really talked about that before. So, that was really useful."
– Rohan, M3THOD client aged in his 40s

Rohan and other clients benefitted from flexible and person-centred peer support. Like several other clients, Rohan notes that M3THOD afforded an opportunity to discuss topics previously unexplored.

Yet in peer interviews and field notes, peers reflected on the challenges associated with responding to a client's traumatic disclosures. Peer field notes document disclosures relating to childhood sexual abuse, suicidal ideation or in one instance, acute suicidal crisis. For instance:

"[A] client was in quite a distressed state and talking about suicide, which seemed to consume his thoughts. I had to talk him through some breathing exercises, due to the fact that I noticed him starting to hyperventilate. This activity certainly improved his breathing, and I could see his body relax."
– Ryan, field notes from M3THOD peer worker

The excerpt from this field note pertains to a client, who during the intervention, disclosed suicidal thoughts requiring immediate crisis support from ACON's clinical teams. This highlights how onsite clinical teams supported safety for both clients and peers. Acute presentations and the recurrence of traumatic disclosures challenged M3THOD peers and their managers. Such content underscored the importance of thorough peer training, robust post intervention debriefing, monthly clinical supervision, support from an onsite clinical services team and the development of thorough intake procedures to identify clients who may be in acute distress to offer appropriate referrals.

Peers' identity and experiences

The perception of the demographic and behavioural characteristics of the peer workers impacted intervention clients' perceptions of M3THOD's appropriateness. Respondents said that a peer can be defined as such based on their practice of chemsex. As reflected in Richard's quote (above), peers' disclosure of their chemsex practice was largely reported to mitigate shame and facilitate rapid rapport and therapeutic sharing.

Additional to considerations around peers' experiences of chemsex, were considerations around age, HIV status and ethnicity. As is indicated in Table 1, M3THOD reached several men aged over 50. Most of these men, unprompted, reflected that it was only appropriate for them to work alongside an older peer. These men noted that their decades of experience traversing long-term relationships, professional and family life, coming of age at a time of criminalised homosexuality, and their experience of HIV/AIDS throughout the 1980s and 90s, distanced them from younger peers. Older men also reflected on ageism inherent in gay social and sexual settings and spoke about their potential to transfer negative experiences with younger gay men onto younger peer workers. Sensitivities around intergenerational peer work appeared to be pronounced in M3THOD due to the

intervention's focus on drug use in the context of casual sex.

> *"Some of my peers, my age peers would not engage with the peer service because it's all young guys. I deliberately put that aside. I thought, 'No, regardless … forget about the age. These men are still gay men. They still have knowledge….' and I could put that aside, but I know some men my age would think, 'Oh, why should I talk to some young guy about what I do for sex? Are they going to understand? They're a different generation. They have no idea.' I buried my first partner from AIDS when I was 29, right? You guys, young guys just don't, have no idea. So, there is definitely a generational gap there in the gay community and, certainly, here. And that overlaps and overflows into peer support as well."*
> *– Trent, M3THOD client aged in his 60s*

While two of three M3THOD peers were aged under 50, one was in his mid-60 s. In their interviews, M3THOD team members spoke about efforts to match clients to peers based on age but also cultural background, experiences of migration, and HIV status. However, they noted that demographic matching did not automatically generate rapport, and for some clients this matching felt immaterial. No M3THOD peers identified as transgender, and only one transgender client received the M3THOD intervention in the formative evaluation period.

Brief intervention protocol

At the start of M3THOD's implementation, peers and managers adhered to a one-peer appointment, brief intervention protocol. As outlined by Gabriel (below), the decision to contain the intervention to one appointment was made to support strong boundaries between clients and peers.

> *"I guess we, we're sort of trying to define what it is and what it isn't. By making it a brief intervention, the idea was that sort of takes it away from like case work."*
> *– Gabriel, service manager interview*

Before implementation, the M3THOD team anticipated that by referring clients via sexual health clinics, online platforms and in person community outreach, the intervention may engage clients desiring a brief intervention addressing harm reduction education. As noted in Table 1, nearly all M3THOD recipients who consented to participate in this research reported current crystal methamphetamine dependence. The more comprehensive support needs of these clients combined with the rapid rapport often established with M3THOD peers, challenged the appropriateness of M3THOD's initial one-time appointment protocol. Overwhelmingly in our data, clients reported that they wanted ongoing and not once off or brief support.

> *Thomas: "I think I was a little bit disappointed that we didn't have a follow-up meeting. I thought, 'Wow, he's just done, he's just ticked the box and I'm out.' It's like I was auditioning for attention, and I thought, 'Well, I didn't … I didn't, that was a waste of time.' That was, that was my conclusion as I walked out.*
> *JF: "It would have been good for you in that appointment, if it had been said, 'Do you want to come back and see me in a couple of weeks or something?'"*
> *T: "No, no. Not 'do you want to' but "'I'd like to see you'". I think it might make a difference."*
> *- Thomas, M3THOD client aged in his 50s*

In their interviews, many clients spoke about experiences of social isolation, loneliness, and a desire for connection both in general and specifically around the subject of chemsex. Thomas's quote (above) is indicative of other clients who experienced the 'briefness' of the intervention as transactional and impersonal. For Thomas and others, this protocol aggravated feelings of rejection, a sensitive experience for a client group who often articulated low self-esteem and mental health distress. Our data indicated that the benefits of an affirming, non-judgemental and honest connection with a M3THOD peer were curtailed by a client's inability to work with the same peer over several sessions.

As indicated by Taral's quote (below), clients often requested repeat appointments with peers.

> *"Cause I've been emailing Kevin as well, like, 'cause I struggle with meeting people, and I've been begging him to be my next session partner. And he assured like we're gonna be seeing each other again, like next session."*
> *-– Taral, M3THOD client aged in his 20s*

Through requests like Taral's, the M3THOD team recognised challenges associated with M3THOD's brief protocol and eventually adopted their practice to enable peers to see clients over more than one session. However, the transition of M3THOD from a brief, one-time intervention to a multi-session intervention raised questions pertaining to an appropriate intervention strategy. The M3THOD team was challenged to determine upper limits on the number and frequency of repeat appointments for a single client.

> *"Everything's a case-by-case judgement in this space. I've seen the same client for eight times for one cli-*

ent because there were really that much, that much stuff to talk about. And every session we'd talk about different things. And, and I think that's completely okay. It is when someone kind of like comes to a peer with the same old struggle that I feel like either, 'I'll assign you a different peer, so you hear a different perspective, or I just don't know what to do with you anymore because that's clearly out of a peer's depth.'"
-– Kevin, peer worker interview

Kevin reflects on the tension between a protocolised intervention with a predetermined scope and person-centred support. He asserts the benefits of working with clients over several sessions while acknowledging a need to retain appropriate boundaries for peers without professional or clinical qualifications. At the time of interview, the M3THOD team had not determined an upper limit on the number of repeat appointments a client could receive. Instead, the team reported that they were starting to work with a more flexible approach, with judgement calls regarding intervention dose made on a case-by-case basis. These judgements were reportedly made in frequent consultation with onsite clinical teams and the M3THOD supervisor.

Feasibility

M3THOD demonstrated that multifaceted chemsex peer work traversing harm reduction education, motivational interviewing and service navigation is feasible. Our data also show how several components of M3THOD's implementation context, strategies and mechanisms impacted feasibility. Particularly notable was the co-location of M3THOD services alongside a specialist clinical team, including the careful selection of and support offered to three highly skilled peer workers and the availability of local referral pathways for clients.

All M3THOD peers, their managers and partnering clinicians emphasised that ongoing support from ACON counsellors as well as monthly clinical supervision with an external supervisor were fundamental to M3THOD's feasibility. As mentioned in our introduction, ACON has delivered a specialist drug and alcohol counselling service for sexuality and gender-diverse people for over 12 years [70]. This team sits within a large client services division staffed by psychologists, counsellors, and social workers.

Throughout implementation, the M3THOD team devised approaches to build closer peer and clinical integration. These approaches included consistent post-intervention debriefing, collaborative devising of chemsex resources, the co-location of M3THOD peers alongside ACON's counsellors and the routine inclusion of M3THOD peers in counselling team meetings.

"We work closely with Substance Support team… and it's been really beneficial to us peers, you know. Like the times when you're just two weeks until the clinical supervision. I don't know if that session went well or not. I want to chat to the professional who works in this space and just get some advice on what I can do differently next time."
– Kevin, peer worker interview

The findings outlined in the acceptability section above, highlighted the conditional link between clinician acceptability of M3THOD and its close integration into clinical practice. Additionally, as noted in the appropriateness section, onsite clinical teams were frequently relied upon to support clients during crises.

M3THOD's feasibility appeared to hinge on the recruitment of suitable peer workers. As outlined in Appendix A, M3THOD was delivered by three peers, one of whom was employed as a full-time member of ACON staff and two who were employed on a casual basis for M3THOD. When asked about peer recruitment and peer effectiveness, service managers, the M3THOD clinical supervisor and M3THOD peers themselves emphasised that peers needed strong communication skills, values in alignment with M3THOD's harm-reduction approach, strong boundaries, sound clinical judgement, reliability and highly developed empathy. M3THOD's clinical supervisor expressed her enthusiasm for the quality of M3THOD peer workers.

"I think that the, they're three admirable men, you know, I really think, 'Gosh, well, where did you find these gems?'"
– Jane, M3THOD clinical supervisor

M3THOD peers and their managers also emphasised that hiring a small group of peers, rather than just one, was integral to feasibility. For instance, below, Billy speaks to the necessity of establishing a support network for peers working in challenging circumstances.

"You're playing in a space that can be very challenging and complex in many ways… Organisations need to care for their staff in this space, over-care for their peers, give them a buddy system, give them multiple contacts. I can see things going really wrong if an organisation tried to develop something like this and let that peer just kind of go on maybe their own with one contact."
– Billy, service manager

Whether M3THOD could be delivered by peers with an ongoing practice of chemsex versus a historic practice of chemsex was raised by M3THOD clients, peer

workers and managerial staff. Peers and staff reported that M3THOD was guided by harm reduction principles and aimed to centre lived experience. For these reasons, peers were not required to maintain abstinence. It was generally deemed feasible for peers delivering M3THOD to report an ongoing practice of chemsex; however, managers highlighted occasional challenges associated with working alongside people with living experience. Below, Billy speaks about how the non-linearity of a peer's personal relationship with chemsex can be disruptive to a peer's ability to sustain service delivery, requiring the intervention to be adaptive.

> *"I think either living or lived can deliver these interventions. I just think there's gonna be a lot more challenges with someone who may still be struggling, and they may be moving backwards or forwards… Suddenly, they're sinking backwards but they've gotta show for a shift. You know what I mean? You don't fall backwards in your HIV diagnosis or your understanding of PrEP; like your knowledge around that.*
> *– Billy, service manager*

Although managers commented on potential challenges associated with living experience, as earlier noted in the acceptability section by Kevin, peers reported that their engagement with M3THOD supported them to manage their use. Overall, a living experience service was deemed feasible on the condition that extensive training, support and clinical supervision be provided for peers.

Several components of ACON's external setting contributed to the feasibility of M3THOD, outlined in the determinant's column of Fig. 1. In their interviews, M3THOD managers emphasised the resources required to support a robust peer intervention and stated that the employment of a clinical supervisor plus a full-time and two casual chemsex peer workers and the investment in peer training was only possible due to ACON's receipt of research funding which supported M3THOD's development and evaluation.

M3THOD managers also reflected that a shifting political context in NSW facilitated M3THOD's development and implementation. M3THOD was developed and implemented in the immediate aftermath of the 'NSW Special Commission of Inquiry in the Drug Ice' [77]. The findings of this inquiry commissioned by the NSW government, highlighted that crystal methamphetamine use disproportionately impacts GBMSM and recommended further investment in peer-led interventions. Managers narrated that a shifting political climate, punctuated by the findings from the Special Commission, enhanced ACON's ability to develop a structured chemsex peer-led intervention. When reflecting on the conditions that gave rise to the development of M3THOD Gabriel reflected:

> *"The political climate had changed. Like the year before we'd had the ice inquiry in NSW. So, and I think as well, because ACON hadn't been able to kind of secure drug and alcohol funding getting the (research) grant really was a massive enabler, and it just happened to be at the right time politically as well."*
> *– Gabriel, service manager interview*

Besides external factors associated with political will and funding, peer workers and their clients reflected that the availability of onwards referral pathways to services with chemsex expertise enhanced M3THOD's feasibility. Findings from previous research indicate that GBMSM do not readily access mainstream drug and alcohol services for fear of discrimination and a perception of lacking expertise [21].

A central rationale of M3THOD was to support people to access tailored chemsex harm reduction services and this was contingent on the availability of appropriate services. In Sydney, there are several services and practitioners with expertise in chemsex. As demonstrated by Dimitri's account, their existence enabled peers to enact service referral and navigation.

> *"There were quite a few factors that I had disclosed… to untangle that mess required a genuine professional. And I can, I can totally see why that's the case. Like, when you're combining issues with work, with issues with particular sex acts, with issues with body image, with issues of … There are so many things here to unpack, right… yeah, I totally get why you have to have someone who's an experienced and qualified professional to, to unravel it and make, you know, and make it make sense."*
> *– Dimitri, M3THOD client aged in his 40s*

Dimitri notes that the range and depth of matters he wished to discuss required a higher level of support than what a M3THOD peer could provide. Dimitri later reported on the benefits he gleaned from being supported to access other services and the availability of appropriate referral pathways also supported peers. This highlights that the availability of referral impacted the feasibility of the service navigation component of M3THOD.

Discussion

Interpretation of findings

To our knowledge, this is the first study to document a peer-led chemsex intervention and formatively evaluate it against implementation outcomes. Several studies

have recommended that peer services be implemented for GBMSM engaged in chemsex [14, 54, 56]; however, the contexts, implementation, protocols, strategies, and outcomes of these interventions have rarely been evaluated. Researchers have noted that peer interventions are well placed to address issues that are stigmatised and to target populations who experience multiple axes of marginality [78]. In our study, clients largely appraised M3THOD as acceptable and emphasised that the peer component of the intervention mitigated their sense of isolation and afforded a unique opportunity to share and be understood. As documented in other studies [14, 21, 54], opportunities for clients to discuss chemsex in mainstream services are scarce. For several participants in our study, M3THOD provided them their first opportunity to have a therapeutic conversation about chemsex. Further, as noted in several studies on peer work in mental health [79], M3THOD appeared to benefit peers.

The need for appropriate boundaries is extensively discussed in existing literature on peer work [80]. In our study, the question of boundaries was often considered in relation to M3THOD's scope. The scope of M3THOD permeated stakeholders' perceptions of the intervention's appropriateness. The multifaceted nature of M3THOD, combined with the robust support needs of many clients, required peers, their managers, and allied clinicians to grapple with tensions regarding M3THOD's protocol. For example, members of the M3THOD team emphasised the intervention's promotion of autonomy and practiced person-centred approaches to eliciting narratives and shared goals [81], but they also acknowledged that some peers lacked clinical qualifications which led to the subsequent need to curtail content and contain traumatic disclosures. Because they rapidly built trust and rapport with M3THOD peers, clients often wanted to keep seeing the same peer over several sessions. However, the M3THOD team resisted defining the intervention as an ongoing peer mentorship program and similarly noted that peers' lack of clinical qualifications necessitated firm boundaries around repeat appointments. Our findings indicate that a one-appointment intervention was not appropriate for many clients with robust care needs. However, after a year of our evaluation, the M3THOD team had not determined the upper limits of M3THOD's scope. Rather, peers, their managers and clinicians emphasised the importance of enabling peers to work with clients over several sessions to deliver a person-centred intervention, operating within a framework of structured flexibility and with a backdrop of extensive support. All stakeholders noted that the acceptability and feasibility of a peer chemsex intervention was contingent on thorough peer training, regular clinical supervision, and multiple avenues of pastoral care for peers.

Many clients described feeling isolated and stigmatised, particularly in relation to being gay, living with HIV, and engaging in chemsex. They also reported difficulties in accessing meaningful support for chemsex through other services. Consistent with other research, our findings indicate that stigma and perceived discrimination can exacerbate barriers to care and contribute to poor health outcomes [53, 75, 82]. As such, our findings reinforce the conclusions of an earlier Australian study related to sexualised drug use among GBMSM which highlighted the need for stigma reduction interventions across multiple levels, including individuals, social networks, health services, and public policy [75].

Challenges associated with the clinical integration of peer programs addressing substance use have been observed elsewhere [83]. Our study highlights that a thorough and conscious integration of peer and clinician approaches is essential to the feasibility of peer-led chemsex interventions and that this integration benefits peer workers, clinicians and most importantly their shared clients. The integration of peers and clinicians increased throughout M3THOD's implementation, and integration was served by peer and clinician collaboration on resource and program development, routine post-intervention peer and clinician debriefing and bi-directional referrals. From the vantage of clinicians, these activities aided M3THOD's transparency, facilitated clinician's trust in peer workers, mitigated risks to clients and supported clinicians' learning. From the vantage of peer workers, these activities extended their confidence and accelerated their learning.

The identities, living experiences, personal and professional characteristics of individual M3THOD peer workers, positively impacted the intervention's performance against acceptability, appropriateness, and feasibility outcomes. Counter to findings from other studies of peer interventions addressing substance use [51, 53], stakeholders interviewed for M3THOD did not espouse that peers needed to be abstinent to deliver this intervention. However, managerial staff felt that a peer's ongoing practice of chemsex at times complicated their ability to support their clients and in turn, they emphasised the need for multiple avenues of peer support.

Our data indicate that practitioners of chemsex peer interventions need to be mindful of how power dynamics inherent to GBMSM casual sex cultures affect a client's intervention experience. Older participants in our study did not wish to work with younger peers and additional dimensions regarding peer worker race, ethnicity, migration, HIV status and gender should be considered in future research and practice.

Limitations

Our study has several limitations. First, this research purposively sampled intervention recipients, and among this group we faced challenges around recruitment. More than half of the 39 clients who received the M3THOD intervention did not consent to research participation. M3THOD peer workers reflected that often when they invited their clients to research participation, many expressed trepidation to discuss chemsex with a researcher, citing concerns around personal privacy and confidentiality. Although data on the sexuality and gender identities of M3THOD participants who did not participate in the M3THOD research is limited, peers have indicated that the sexuality and gender identities of our research sample are broadly reflective of the sexuality and gender of the overall cohort of M3THOD clients, as the service has predominantly engaged cisgender gay men. This should be considered as a limitation of both the service and the research. Enhanced efforts should be taken to engage a greater diversity of community members with the M3THOD intervention.

Second, while only four research participants were culturally and linguistically diverse, peers have reported that a far greater number of intervention recipients were culturally and linguistically diverse. The minimal engagement of our research with this group limits our understanding of how this chemsex peer service was experienced by culturally and linguistically diverse clients. Furthermore, no service or research participants identified as Aboriginal or Torres Strait Islander despite Aboriginal and Torres Strait Islander people being a priority population in the Australia National Drug Strategy [84]. It is also important to note that those who have positive experiences, successfully manage their use, and engage in sexualised use of methamphetamine and GHB without experiencing unmanageable harm are less likely to participate in this type of intervention. As such, the experiences reported here should not be taken as representative of all people who engage in chemsex.

Finally, our formative evaluation also uncovered issues with regards to the peer service accurately and reliably recording intervention data. Similar challenges have been observed in relation to the evaluation of other peer programs for GBMSM [85]. As a result of this formative evaluation, service data are now being recorded on a clinical data management system to support the safety and transparency of the service.

Implications for future research and practice

M3THOD is being implemented ongoing. Since the conclusion of this formative evaluation, adaptations to M3THOD's intervention protocol have been made to enable peers to work with clients over multiple sessions and to support the closer integration of M3THOD with onsite counselling teams. These adaptations have seen the number of M3THOD clients and occasions of service dramatically increase. As mentioned above, these clients and occasions of service are being recorded on a tailored clinical management system. Our study used qualitative methods to measure early stage implementation outcomes; however, given increases in client numbers following the formative evaluation, an effectiveness evaluation should be undertaken to measure the intervention's impact on several outcomes: harm reduction knowledge and practice, frequency of substance use, readiness to change, severity of dependence and broader indicators of psychosocial wellbeing. Further, many study participants desired tailored chemsex group work programs. One chemsex group program has been implemented and formally evaluated, demonstrating effectiveness against mental health and substance use outcomes [8]. Qualitative research exploring how chemsex peer groups are experienced by clients should be undertaken to guide further development and implementation of M3THOD activities.

Conclusions

Our findings show that peer-led chemsex work is acceptable, appropriate, and feasible across a range of stakeholders, including people who engage in chemsex, peer workers, and clinical service providers. This formative evaluation of M3THOD highlights that although peer-led chemsex interventions hold promise, their effectiveness depends on substantial investment in peer training, as well as ongoing opportunities for supervision, debriefing, and pastoral support. Integration with clinical service providers was considered essential to the feasibility of M3THOD, and future peer-led chemsex initiatives should establish collaborative relationships and referral pathways with affirming, inclusive services. Taken together, these measures enhance service safety while strengthening peer workers' autonomy to use their lived and living experience when delivering meaningful, person-centred chemsex interventions. These findings have important implications for the field of chemsex practitioners and peer-led interventions more broadly. Future research must be conducted to measure the impact of M3THOD or similar peer-led interventions against harm-reduction knowledge, practice, service access or behaviour change.

Abbreviations

GBMSM	Gay bisexual and other men who have sex with men
GHB	Gamma hydroxybutyrate
PnP	Party and play
SDS	Severity of dependence scale

Supplementary Information

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Supplementary Material 1

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Author contributions
JF supported conceptualisation, led led data collection, analysis and manuscript preparation. DS conducted data analysis and manuscript preparation. KS, AB & GP led on conceptualisation, supervision and supported data analysis and manuscript preparation. NE, LM, RS & DM supported conceptualisation and manuscript preparation and revision. MH led on conceptualisation and supervision, supported data analysis, manuscript preparation and revision.

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Data availability
Qualitative data are not publicly available to protect the privacy of research participants. Deidentified survey data on participant characteristics may be made available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate
This study was approved by UNSW Human Research Ethics Committee, approval number HC210304.

Consent for publication
Research participants provided consent for participation.

Competing interests
For the duration of this study, authors JF and BJX were employed at ACON, a community organisation that delivered the M3THOD service and other tailored services for lesbian, gay, bisexual, transgender and queer communities in New South Wales Australia.

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