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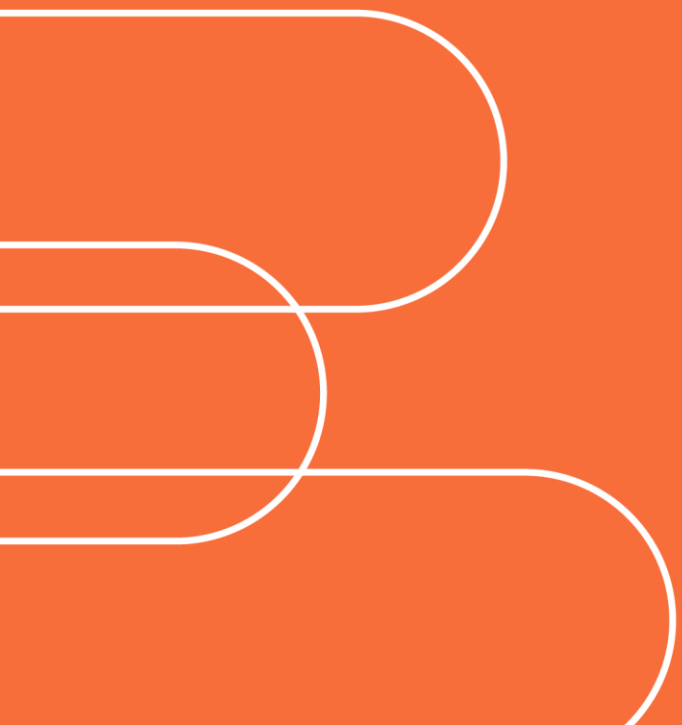
Responding to risks of injecting drug use initiation in Kachin Myanmar: a formative assessment



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Background

Médecins du Monde (MdM) provides harm reduction services to people who inject drugs in *Hopin, Mogaung* and *Mohnyin* Townships in Kachin State, Myanmar. Previous analysis of HIV testing data from MdM's Kachin services demonstrated elevated incidence among those recently initiating injecting drug use (within 2 years of initiation). Additional, anecdotal evidence from MdM outreach workers further suggested increases in the numbers of individuals reporting injecting drug use initiation, and shorter transition periods between non-injecting and injecting drug use.

In response, in 2024, MdM contracted the Burnet Institute to conduct formative assessment exploring the characteristics, risk behaviours and risk environments of recent initiates to injecting drug use and their use of harm reduction interventions in Kachin, Myanmar. As part of this work, co-design workshops were held with people who inject drugs, MdM service providers, and researchers to collaboratively contribute to the design of a novel intervention to meet the unique harm reduction needs of those newly initiating injecting drug use.

This work represents the first element in a broader, three-year program of work that will implement and evaluate multiple interventions via MdM's Kachin-based harm reduction services to support new initiates to injecting drug use.

This report was prepared by Dr. Daniel O'Keefe, Dr. Hla Htay, Dr. Daisy Gibbs and Emily Adamson for the Burnet Institute, with significant support from the research team.

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Research team

This project was led by the Burnet Institute, who were responsible for obtaining ethical approval and project implementation, including data collection, management and analysis.

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Prof. Stoové was the project's Principal Investigator. Dr. Hla Htay and Dr. Daniel O'Keefe acted as Myanmar and Australian study co-ordinators respectively, responsible for all aspects of project implementation, project oversight and management.

Resources

This work was conducted by the Burnet Institute as consultant for MdM, with funding from USAID, within harm reduction services operated by MdM targeting key populations, with MdM as key partner in the work.

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1.0 Introduction

Among the world's estimated 13.9 million people who inject drugs (2024) (1), the early period after initiating injecting drug use is one of heightened risk of harms such as acquiring blood-borne viral (BBV) infections. The first stages of an individual's injecting career have been characterised as highly complex processes involving intersecting individual, social, structural and interpersonal factors (2). Often, novice injectors are initiated into injecting drug use by more experienced peers within their social networks (2, 3). Previous research has suggested that having close friends, sex partners or family members who inject drugs, facilitates the transition to injecting (2), and that those newly initiating injecting drug use are often injected for the first time by somebody else (2). Indeed, many people who inject drugs report having been asked by non-injecting peers to provide help or guidance about how to administer first injections (3).

There are many reasons people may choose to start injecting drugs, such as enhancing the high from the drugs they use (4), curiosity or experimentation (2), association with other people who inject, or for economic reasons due to enhanced and more efficient drug effects via injecting (2, 4). The risk of infection with HIV and viral hepatitis have been shown to be highest during the first few years of injecting (5, 6). Previous research has characterised the transition to injecting as a period of intense use of a particular drug (5). This, coupled with relative inexperience and socio-structural barriers to accessing harm reduction services, increases the risk of BBV transmission (5).

While many interventions exist to reduce harm among people who actively inject drugs, interventions specifically designed to support new initiates are relatively few. Much research has focussed on stopping the transition from non-injecting drug use to injecting drug use. For example, two prominent models of intervention ('Change the Cycle' & 'Break the Cycle') were designed to engage with people who have been injecting drugs over the long-term to provide education and potentially refuse requests to facilitate first injecting episodes for prospective initiates (7, 8). These interventions were developed and trialled in high income countries, potentially limiting their acceptability and utility in other settings. Evidence of effectiveness for these interventions was also marginal (7, 8), pointing to the need for evaluation of alternate models, and formative research to design programs that meet the values and preferences of local drug using populations.

Myanmar, situated within the global "Golden Triangle", remains one of the world's major suppliers of illicit drugs, particularly heroin and methamphetamine. In 2018, the number of people who inject drugs in Myanmar was estimated to be 92,798 (49,455 – 123,731) (9), with approximately 35% living with HIV and 56% testing HCV-antibody positive (9). In most areas of the country, non-governmental organisations provide the majority of harm reduction services, and there is a need for scale up to fully support target populations. The Myanmar National Strategic Plan on HIV, 2021-2025 (NSP IV) recommends the expansion of services targeting people who use drugs or inject drugs and their partners.

In 2023, HIV incidence was calculated among clients from three MdM harm reduction drop-in centres located in Kachin, Myanmar. HIV incidence among those reporting initiating injecting drug use within the two years prior to testing was substantially higher than those reporting injecting initiation at longer time points (10). Recognising the heightened risk among new initiates, MdM

sought to develop, implement and evaluate new harm reduction interventions directly targeting this vulnerable sub-population.

Subsequently, in early-2024, MdM began collaboration with the Burnet Institute to support this initiative to co-design and evaluate tailored harm reduction interventions for individuals newly initiating injecting drug use (hereafter "new initiates"). In Project Phase 1 (until end-Sept 2024), the Burnet conducted formative assessment in Kachin, Myanmar, using qualitative interviewing and co-design methodologies to explore the characteristics of individuals' first injecting episodes, early subsequent injecting episodes, current access of harm reduction services, and perception of appropriateness of these services. Following this initial work, in Project Phase 2 and 3, tailored harm reduction intervention/s targeting new initiates will be designed and implemented over a 12-18 month period, with embedded iterative evaluations and program refinement, with final outcome evaluation completed in Project Phase 3.

This report describes outcomes from the Project Phase 1 (until end-Sept 2024) qualitative and co-design component.

2.0 Project design

2.1 Study design

This cross-sectional study utilised qualitative interview and co-design methodologies to collect formative data on the characteristics of injecting drug use initiation, related risk and access to relevant harm reduction interventions from service clients and providers in Kachin, Myanmar. Participants were purposively recruited based on characteristics relevant to the aims of the project and experience and expertise on the subject matter. Finally, routine service-level data was provided by MdM and analysed by the Burnet Institute to allow for recording of current levels of engagement and harm reduction intervention delivered to new initiates.

2.2 Aims of the research undertaken in **Project Phase 1**:

1. Identify and describe the characteristics associated with initiating injecting drug use, and associated risks in Kachin, Myanmar.
2. Identify and describe the availability and use of harm reduction interventions in Kachin, Myanmar and their appropriateness for new initiates;
3. Translate findings from qualitative interviews and co-design workshops into recommended design features for a tailored harm reduction program to effectively reach new initiates to injecting drug use in Kachin, Myanmar.

2.3 Study sites

The study was conducted at three Kachin-based research sites (Mogaung, Hopin and Mohnyin), known to have high levels of drug use and BBV prevalence among people who inject drugs. Study locations were selected due to the location of harm reduction sites operated by MdM. MdM assisted with recruitment of participants.

2.4 Ethics approval

This study was ethically approved by the Alfred Hospital Ethics Committee (Project 334-24).

3.0 Study methodology

To address Project Phase 1 aims, mixed methods formative research was undertaken, constituting: 1) comparative quantitative analyses of routine service-level data disaggregated by new injecting initiates versus other clients; 2) qualitative data collection from client and service provider participants; and 3) data-informed co-design workshops to support the design and implementation of tailored interventions for new initiates to injecting drug use.

3.1 Provision and analysis of MdM routine service-level data

MdM collects routine service-level data on client engagements at multiple points. At first engagement, new clients to MdM services are registered within MdM data systems. Included within the registration process is classification of clients according to pre-established risk groups (e.g. "person who injects drugs", or "female sex worker"). MdMs pre-existing classification categories did not include a category to capture new initiates. Working with the Burnet, MdM designed and included new routine questions to classify new initiates as an additional client category. According to the agreed definition, 'new initiates' were classified as those initiating injecting drug use for the first time (as opposed to those re-initiating injecting drug use after a period of abstinence) within the past 12 months. At first engagement, new MdM clients were asked when they had initiated injecting drug use, with the time since initiation recorded in MdMs Prevention Data Collection Form. This question was planned to be answered at each subsequent engagement also. Using this information, it is possible to classify MdM clients as 'new initiates' for those reporting initiation in the 12 months prior to engagement. If a client reported initiating injecting drug use longer than 12 months ago (even if previously classified as a new initiate), this information would be subsequently left blank.

For the purposes of this report, anonymous service-level data was provided for all clients at partnered MdM sites, from the time data changes were made (1st June 2024) until 30th September 2024. This resulted in data for 40,277 individual engagements with MdM clients.

Data was descriptively analysed to determine number of new initiates engaging MdM services and any differences in the characteristics and service access for new initiates compared to other clients. Additionally, data quality was assessed with view to supporting future evaluation of the new harm reduction intervention/s during Project Phase 2 & 3.

3.2 Qualitative interviews with service clients and service providers

In August 2024, qualitative interviews were conducted with MdM service clients via key expert interview (KEI) and focus group discussion (FGD). KEIs included a combination of new initiates and more experienced injectors. Due to potential power imbalance between new initiates and people who have injected drugs longer term, new initiate participants were only interviewed via one-to-one KEI. KEIs were also conducted with clients with 'special' experience or knowledge, such as known and respected peers or 'professional injectors' working within shooting galleries. FGD participants were exclusively more experienced clients and professional injectors.

Service provider participants were only interviewed in KEIs.

All participants were reimbursed $17,000MMK (approx. $5.00USD) for their time and travel.

3.2.1 Sample size for service clients

KEI: Across the three study sites, 18 service client participants were recruited for KEI.

FGD: One FGD with service clients was held per site, with seven participants per FGD, totalling 21 service clients for FGD.

3.2.2 Sample size for service providers

Across the three research sites, three KEIs with service providers were conducted at each site, totalling nine KEI interviews.

3.2.3 Qualitative interview question guides

Interview guides were developed for qualitative interview. The same interview guides were used across KEIs and FGDs.

Service clients included questions covering (but not limited to) the following broad domains:

1) Characteristics of injecting drug use initiation: Including the location of first injection, how an individual learnt to inject, what drug they first injected, why they chose to initiate injecting drug use;
2) Risk related to injecting drug use initiation: Including sterility of first injections, and potential sharing of injecting drug use equipment; and potential coercion during first injection;
3) Service provision for people newly initiating injecting drug use: Including the current and past availability and use of harm reduction interventions, and the perception of appropriateness for those newly initiating injecting drugs use.

Interview guides for service provider participants included questions covering (but not limited to) the following broad domains:

1) Characteristics of injecting drug use initiation: Describing service provider understanding of characteristics of first injecting episodes among new initiates;
2) Risk related to injecting drug use initiation: Describing risks understood to be associated with first injecting episodes among new initiates according to the local context, such as practices associated with shooting galleries;
3) Service provision for people newly initiating injecting drug use: Including current services provided to people who inject drugs, any differences in services provided when encountering new initiates and perceptions of how different, tailored services may be designed and delivered.

Qualitative interview question guides are included as Appendix 2.

3.2.4 Analysis of qualitative interview data

Following completion of KEIs and FGDs, all interviews were transcribed and translated into English by Burnet researchers, with support from a professional transcription service. Qualitative interview data was grouped around dimensions related to the questions in the interview guide.

3.3 Co-design workshops

Co-design workshops aimed to produce insights and outputs that capture the lived experiences and expertise of participants. During the workshops, participants worked with researchers to co-design elements of harm reduction intervention/s tailored to the needs of new initiates. The proposed methods reflect Burnet's commitment to embedding the privileged knowledge of people who inject drugs in research and design to uphold the rights, dignity, and expertise of people who use drugs.

The key outputs from the co-design workshops were the generation of a draft program logic, including identification of core components that should be included in any tailored designed intervention/s.

Co-design workshops were conducted in September 2024.

3.3.1 Participant recruitment and sample size

Two 'full day' (approx. 4-5 hours) co-design workshops were held; one with service clients and one with service providers. A single workshop with each participant-type was selected as practical from a data analysis and consolidation perspective. Workshops were held in a central location (Mohnyin). Workshop participants were intended to be drawn from those previously participating in qualitative interviews, with travel support for clients from Hopin to attend the workshop in Mohnyin. However, this presented a logistical difficulty for approached service client participants, with all refusing to travel. Consequently, the workshop with service clients only included participants from Mohnyin, with some new participants (not previously participating in qualitative interview) asked to participate. Service providers from all three study sites participated in the Mohnyin workshop.

For each co-design workshop, 9 service clients and 10 service provider participants were recruited, for a total of 19 participants.

As with qualitative interviews, co-design workshop participants were reimbursed 17,000MMK (approx. $5.00USD) for their time and travel expenses.

3.3.2 Co-design workshop structure

Co-design methods aim to build consensus among participants. Consensus decision making was achieved in our workshop through activities requiring exploratory discussion, idea generation and prioritisation. Further, co-design methods are an iterative process between service client, provider and research team. Workshops were comprised of Three Phases, with the aim of generating ideas to contribute to defining a draft program logic for harm reduction interventions for new initiates. The draft program logic provides clarity about the problem being addressed by the intervention (area of need), and to more directly align the aims of the program with appropriate outcome measures (to assess program effectiveness).

Workshops were audio recorded for later transcription and translation to English. Multiple physical mediums (e.g. butchers paper for mapping exercises, cards for brainstorming) of data collection were used to facilitate co-design processes. No physical mediums included any participant identifying information.

In Phase 1, Burnet researchers presented participants with the following three data sources:

1) A summary of the current international literature regarding harm reduction interventions for people newly initiating injecting drugs;

2) A description of MdM's current service provision; and
3) A summary of the KEI and FGD qualitative interview findings.

During this phase, workshop participants co-designed their design goals for the workshop, defining the basic impacts and principles of the intervention, and the problem which needs to be addressed.

Phase 2 aimed to generate new ideas regarding how to address the needs of new initiates, with a specific focus on:

- Information and education;
- Access to existing services; and
- Current MdM services and injecting equipment coverage.

Phase 2 focused on developing ideas about how to find new initiates within the community and how to attract them to the service. Ideas were generated in small groups via researcher-facilitated brainstorming. All ideas were recorded in writing as well as audio recording.

Phase 3 of the workshop focused on consolidation and prioritisation of ideas. Participants were asked to reflect on generated ideas and endorse 3-4 ideas which they considered most likely to address the target problem. Ideas with the greatest number of votes were then assessed against the design goals identified in Phase 1 to ensure that they were in scope.

Following completion of the workshops and consolidation of workshop findings, a draft program logic was designed. Additional consultation with workshop participants is planned during future model design stages, after completion of this formative analysis.

The draft program logic included four main elements:

1. The *areas of need* that define the problem the intervention is going to address;
    a. Difficulty in identifying and reaching new initiates to injecting;
    b. Injecting related harms (needle/syringe sharing, IRID, overdose);
    c. Disproportionately high incidence of BBV transmission among new initiates; and
    d. Risk of overdose.
2. Core components describe what interventions do to address the areas of need;
3. *Flexible activities* describe how specific services operationalise core components; and
4. *Outcome measures* describe how the effectiveness of the program can be measured to assess if *areas of need* have been met (meaning each outcome is directly aligned with each *area of need*).

4.0 Results

4.1 Current MdM harm reduction service provision

To better understand the current scope of MdMs harm reduction activities in Kachin and identify potential gaps in service provision relevant to new initiates, in August 2024, Burnet Institute researchers held discussions with MdM representatives. In these discussions, MdM described current service delivery consisting of 12 components representing MdM's standard intervention framework for harm reduction (drug use):

Intervention Framework for Drug-Use Harm Reduction Programs

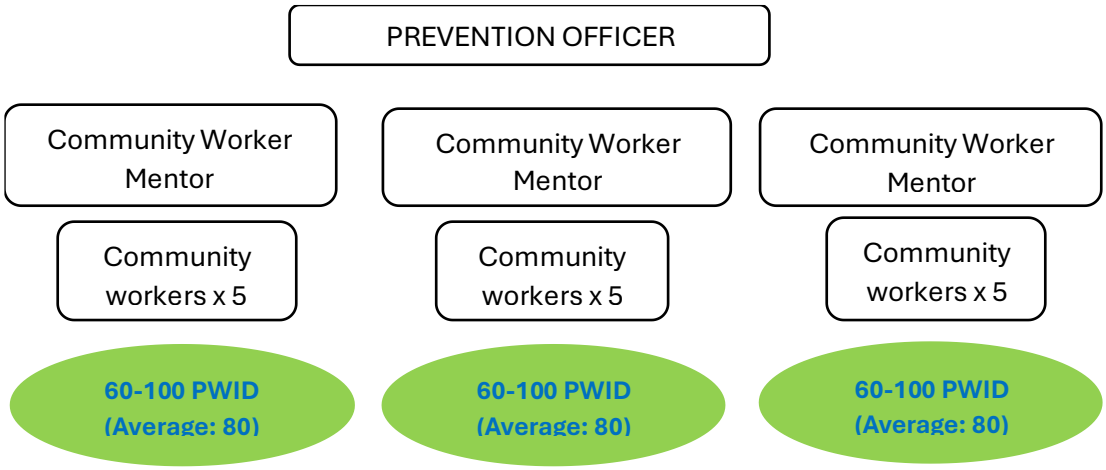
1. Targeted information, education & communication
2. Prevention, diagnosis & treatment of sexually transmitted infections
3. Antiretroviral treatment & care for HIV/AIDS
4. Counselling and treatment of HIV/AIDS and viral hepatitis
5. Mental health care integration*
6. Prevention, diagnosis & treatment of viral hepatitis
7. Opioid substitution therapy
8. Socioeconomic reintegration*
9. Condom and needle & syringe programming
10. Prevention, diagnosis & treatment of tuberculosis
11. Promotion of human rights, fighting criminalization & preventing violence*
12. Preventing & managing overdoses

* While mental health care integration, socioeconomic reintegration and promotion of human rights were described by MdM as part of their minimum package of services, current on-the-ground practices do not specifically emphasise these interventions.

MdM's harm reduction services are primarily delivered either via a fixed-site service (Key Population Service Centres, KPSCs) located in Hopin, Mogaung, and Mohnyin, through which needle/syringe distribution, comprehensive BBV testing and other services are provided. Alternately, services are provided through community outreach by what are termed 'community workers' (CWs); peer workers who live and work in the same location as the clients they serve. In practice, it may be CWs that MdM service clients are most likely to engage with.

CWs operate under supervision of 'community worker mentors' who in turn, operate under an MdM 'Prevention Officer'. CWs are responsible for servicing the needs of, on average, 80 people who inject drugs each within their local community.

Figure 1. MdM village harm reduction work personnel structure



Key CW roles and tasks include, including:

- Distribution and collection of needles/syringes.
- Overdose prevention, training and management, including provision of naloxone at collaborating shooting galleries.
- Community-based BBV testing performed by appropriately trained CWs. Community-based testing performed by CWs is only available for HIV screening.*
- Engaging directly with shooting gallery operators and attendees – visiting shooting galleries three times a day to provide needles/syringes and collecting used needles/syringes.
- Identifying and initiating contact with new clients and introducing them to MdM harm reduction services.
- Engaging professional injectors at shooting galleries, or experienced people who inject, to identify new clients.

* HIV, viral hepatitis and STI screening are available at the fixed-site KPSCs and twice per month MdM mobilises a clinical team to go to the community to perform expanded HIV, viral hepatitis and STI screening (Confined Medical Camp, CMC).

Needle/syringe distribution is the CWs principal task. As per operational practice of MdM's field team, individual clients are permitted to receive a maximum of 45 needles/syringes per day (reported as equivalent to 14 days need). However, for exceptional client need, CWs may provide clients with 100-200 needles/syringes. A shooting gallery client was reportedly allowed between one and three needles/syringes per day (this may not include pre- filled needle/syringes provided at the shooting gallery). For clients who inject in external locations (e.g. farms, forests), CWs may provide them with one hundred or two hundred needles/syringes as needed. Additionally, the CW will place a box of needles/syringes at the front of their own home, so that clients may access them anonymously.

4.2 MdM service-level data results

For this report, anonymous service-level data was provided for all clients who directly received MdM services from the time data changes were made to identify new initiate clients (1st June 2024)

until 30th September 2024. This resulted in data for 40,277 engagement episodes (15,155 in Hopin, 16,660 in Mogaung, 8,462 in Mohnyin) from 8,780 individual MdM clients, 83 (1%) of these were classified as new initiates.

4.2.1 Characteristics of unique MdM clients (n=8,780)

Basic characteristics among unique MdM clients was determined using client unique identifying codes. Data was drawn from client's first recorded engagement in our observation dataset, which in practice, may have represented a 'repeat' engagement for clients who were initially engaged by MdM prior to 1st June 2024 (see below).

While initial examination suggested a higher percentage of women among clients not classified as new initiates, the majority of total female clients are classified as partners of non-injecting drug using or injecting drug using clients. When only considering clients classified as either "DU" (drug user) or "IDU" (injecting drug user) in the data, the total percentage of clients identifying as male was 99% and concordant with the percentage for new initiates. It should be noted that some new initiate clients (n=2) were classified as "IDU partner" or "DU" at first appearance in the dataset, despite the classification of these clients as new initiates inherently meaning should be classified as "IDU". This discrepancy highlights challenges with the new initiates classification methods, and accuracy issues with broader classification of target groups (see comments on data collection section below).

Table 1: Unique MdM client characteristics, n(%)

	HPN New initiates (n=14)	HPN Other clients (n=3938)	MGG New initiates (n=46)	MGG Other clients (n=3503)	MNN New initiates (n=23)	MNN Other clients (n=1256)	Total New initiates (n=83)	Total Other clients (n=8697)
Sex								
Male	14 (100)	3349 (85)	44 (96)	3167 (90)	23 (100)	1034 (82)	81 (98)	7550 (87)
Female	0	589 (15)	2 (4)	336 (10)	0	222 (18)	2 (2)	1147 (13)
Age								
Median (IQR)	31 (29-44)	38 (31-45)	36 (29-44)	37 (30-44)	33 (23-41)	35 (29-42)	35 (28-44)	37 (30-45)
Target group								
DU	0	139 (3)	0	223 (6)	1 (4)	92 (7)	1 (1)	451 (5)
DU partner	0	20 (1)	0	9 (1)	0	97 (8)	0	121 (1)
IDU	13 (93)	3274 (83)	46 (100)	3037 (87)	22 (96)	953 (76)	81 (98)	7265 (84)
IDU partner	1 (7)	505 (13)	0	234 (6)	0	114 (9)	1 (1)	860 (10)
Presentations								
Median (IQR)	4 (2-6)	3 (1-5)	2 (1-6)	2 (1-6)	11 (6-14)	2 (1-10)	3 (1-11)	2 (1-6)
ATS use*								
Yes	13 (93)	2962 (75)	25 (54)	1947 (56)	21 (91)	855 (68)	59 (71)	5764 (66)
No	1 (7)	976 (25)	21 (46)	1556 (44)	2 (9)	401 (32)	24 (29)	2933 (34)

*ATS use was determined by ever responding "Yes" to ATS use at any presentation

Beyond demographics, the number of individuals classified as new initiates at each site was minimal – generally ~1% of all unique clients. These numbers were not substantially different across sites, although new initiates at Mohnyin did record higher median presentations compared to other sites. Importantly, the median age of new initiates compared to other clients was not markedly different, suggesting new initiates in Kachin are not necessarily 'younger' individuals. The percentage of new initiates reporting ATS use at any presentation was generally higher than other clients across sites, and higher in total (71% vs. 66%). Due to the number of possible responses, it was not possible to meaningfully analyse geographic village data – a focus of future analyses.

4.2.2 Characteristics of new MdM clients (n=1,110)

During data collection, MdM classifies engagements with clients as being either "New" (i.e. the first time a client has ever engaged with MdM) or as "Fresh" (defined as a repeat engagement). Of the 8,780 unique clients identified above (Table 1), the majority (n=7,670) were existing MdM clients prior to the start of the observation period. However, 1,110 clients were identified as "new" MdM clients, thereby recording their first ever MdM engagement during the observation period.

Analysing new client engagement data may provide guidance about locating new initiates and providing targeted information, however, given the low numbers, this remains only suggestive. In the dataset, 23 (2%) of the 1,110 new client engagements were with new initiates. Nearly all new initiates were male, with most (85%) female clients engaged for the first time reporting being the partners of either drug users or injecting drug users, and therefore, not drug users themselves (at least according to recorded data). New initiates tended to be of similar age to other clients (despite slight tendency towards younger individuals among the n=4 Hopin new initiates), but reported current ATS use at higher rates than other clients.

New MdM client engagements most often occurred in shooting galleries and 'home' (understood to be the clients' home), with some differences across sites. New engagements with new initiates were very unlikely to occur through the KPSC. When clients were engaged with for the first time, median needle/syringe distribution suggested that often, minimal needles/syringes are actually provided. Further, for new initiates, IEC was provided in only ~50% of engagements.

Table 2: Client characteristics at new MdM client engagement, n(%)

	HPN New initiates (n=4)	HPN Other clients (n=284)	MGG New initiates (n=11)	MGG Other clients (n=216)	MNN New initiates (n=8)	MNN Other clients (n=587)	Total New initiates (n=23)	Total Other clients (n=1087)
Sex								
Male	4 (100)	204 (72)	10 (91)	170 (79)	8 (100)	511 (87)	22 (96)	885 (81)
Female	0	80 (28)	1 (9)	46 (21)	0	76 (13)	1 (4)	202 (19)
Age								
Median (IQR)	26 (21-29)	36 (28-44)	36 (25-44)	34 (27-43)	30 (21-41)	36 (30-43)	31 (22-44)	35 (29-43)
Target group								
DU	0	48 (17)	0	20 (9)	1 (12)	70 (12)	1 (4)	138 (13)
DU partner	0	0	0	0	0	21 (4)	0	21 (2)
IDU	3 (75)	159 (56)	11 (100)	169 (78)	7 (88)	445 (76)	21 (91)	773 (71)
IDU partner	1 (25)	77 (27)	0	27 (13)	0	51 (8)	1 (4)	155 (14)
ATS use*								
Yes	3 (75)	145 (54)	7 (64)	103 (48)	6 (75)	356 (61)	16 (70)	604 (56)
No	1 (25)	125 (46)	4 (36)	113 (52)	2 (25)	231 (39)	7 (30)	469 (44)
Meeting								
Home	2 (50)	132 (46)	7 (64)	126 (58)	1 (12)	85 (14)	10 (43)	343 (31)
KPSC	2 (50)	84 (29)	0	0	0	103 (17)	2 (9)	187 (17)
Mobile	0	46 (16)	0	0	0	0	0	46 (4)
MMT	0	0	0	0	0	2 (1)	0	2 (1)
Outreach	0	5 (2)	0	11 (5)	2 (25)	63 (11)	2 (9)	79 (7)
SG	0	1 (1)	2 (18)	15 (7)	5 (63)	262 (45)	7 (30)	278 (26)
Street	0	6 (2)	0	7 (3)	0	61 (10)	0	74 (7)
Other	0	10 (4)	2 (18)	57 (27)	0	11 (2)	2 (9)	78 (7)
Number n/s provided								
Median (IQR)	0 (0-2)	0 (0-0)	0 (0-5)	0 (0-0)	10 (5-12)	5 (0-10)	1 (0-6)	0 (0-6)
IEC received								
Yes	4 (100)	192 (68)	3 (27)	143 (66)	4 (50)	237 (40)	11 (48)	572 (53)
No	0	92 (32)	8 (73)	73 (34)	4 (50)	350 (60)	12 (52)	515 (47)

*ATS use determined by response at new MdM client engagement – subsequent, some response data is missing.

4.2.3 Characteristics of total MdM client engagements (n=40,277)

Basic service engagement characteristics for service episodes made during the observation period are described. When analysing total MdM engagements and engagement across sites, engagements with new initiates represented only a minimum of overall engagements, approximately 1-3% of all engagements, meaning there is much less opportunity to engage with new initiates.

Recognising again the caution required when dealing with low numbers, most engagements with new initiates occurred at clients' homes, shooting galleries and in street-based settings, though with differences noted across sites. More engagements among new initiates occurred at 'home' in Hopin (45%) and Mogaung (42%) compared to Mohnyin (19%), while shooting gallery engagements were largely driven by Mohnyin; being 33% compared to 3-11% at other sites.

When engaged with, clients (both new and other) received a median of 10 needles/syringes. New initiates received IEC material more often than other clients (27% vs. 19%). In keeping with MdMs stated limits on needle/syringe provision – that clients are not provided with more than 45 needles/syringes daily without a strong reason - 95% of client engagements provided ≤45 needles/syringes.

Table 3: MdM client total engagements, n(%)

	HPN New initiates (n=69)	HPN Other clients (n=15086)	MGG New initiates (n=231)	MGG Other clients (n=16429)	MNN New initiates (n=254)	MNN Other clients (8208)	Total New initiates (n=554)	Total Other clients (n=39723)
Presentation								
First	4 (6)	284 (2)	11 (5)	216 (1)	8 (3)	587 (7)	23 (4)	1087 (3)
Repeat	65 (94)	14802 (98)	220 (95)	16213 (99)	246 (97)	7621 (93)	531 (96)	38636 (97)
Meeting*								
Home	31 (45)	8939 (59)	98 (42)	5759 (35)	49 (19)	1945 (24)	178 (32)	16643 (41)
KPSC	6 (9)	1542 (10)	2 (1)	209 (1)	7 (3)	199 (2)	15 (3)	1950 (5)
Mobile	0	57 (1)	0	0	0	0	0	57 (1)
MMT	0	0	0	2 (1)	0	9 (1)	0	11 (1)
Outreach	0	150 (1)	2 (1)	148 (1)	2 (1)	110 (1)	4 (1)	408 (1)
SG	2 (3)	26 (1)	26 (11)	1773 (11)	83 (33)	3437 (42)	111 (20)	5236 (13)
Street	25 (36)	2959 (19)	80 (35)	3897 (23)	75 (29)	1644 (20)	180 (32)	8500 (21)
Other	5 (7)	1413 (9)	23 (10)	4641 (28)	38 (15)	864 (10)	66 (12)	6918 (17)
Number n/s provided								
Median (IQR)	16 (10-20)	10 (5-20)	3 (0-10)	5 (2-15)	10 (6-15)	10 (5-10)	10 (3-15)	10 (3-15)
IEC received								
Yes	7 (10)	835 (6)	37 (16)	2804 (17)	104 (41)	3837 (47)	148 (27)	7476 (19)
No	62 (90)	14251 (94)	194 (84)	13625 (83)	150 (59)	4371 (53)	406 (73)	32247 (81)

4.2.4 Comments on MdM Prevention Data Collection

Amendments to MdM's Prevention Data Collection Form to capture data about engagement and service delivery to new initiates across the three study sites hold potential to guide targeted services for new initiates. However, issues with the data were identified. Further, it should be noted that geographic village/village ward data for MdM clients was not analysed due to high number of possible village responses. However, village-level analyses would be an obvious area of inquiry to monitor geographic engagement trends with new initiates, such as if a new mining operation started in a certain geographic area.

Key data issues noted:

1) New initiates are currently identified within the data by recording participants' responses to a question about when they initiated injecting drug use. At most sites, this recording did not occur at every engagement and often not at the first engagement of new MdM clients (to identify new initiates, it was sometimes necessary to utilise a 'new initiate' categorisation made at a follow-up engagement and carry it over to a first engagement). Consequently, some complex data coding was was required to identify new initiates and conduct analysis of engagement outcomes.

2) Recording time since initiation was not accurate across sites. For example, Mogaung site recorded multiple responses that exceeded the 12-month definition of 'new initiates'. These responses included a range of months since initiation (e.g. "10-14 months", "10-18 months"), which rendered the response ambiguous and needing to be excluded from analysis (totalling n=15 engagements).
3) One rationale for this formative assessment work, was the anecdotal reporting by MdM service providers that they were encountering more new initiates than previously, and that clients may be transitioning from non-injecting drug use to injecting drug use at a faster pace than previously. While we did not have sufficient temporal data to assess these trends, the data can be evaluated for future analysis. Initial inspection showed recording of target group data to be inconsistent, with recording of unique clients as a "drug user" or an "injecting drug user" often changing frequently across engagements (sometimes on the same day). Initially, 85 clients (out of 8,780 total unique clients) were identified as transitioning from "drug user" to "injecting drug user" across engagements between 1st June and 30th September. However, additional data cleaning showed many of these transitioning between categories multiple times. The number of potential transitions from those originally identified as DU to IDU was reduced to 24; further, only two of these 24 clients were identified as new initiates in the newly included data variables. Consequently, the use of target group data appears an inaccurate method of classifying individuals as transitioning from DU to IDU across engagements. Additionally, instances were noted whereby an individual client was categorised as either "DU" or "IDUP" during the same engagement in which they were classified as a new initiate (see above), highlighting additional accuracy issues. Determining changes in injecting drug use transition times may not be practical without data improvements.
4) Finally, the Prevention Data Collection Form is used to capture information about minimum harm reduction activities delivered to MdM clients, particularly in an outreach setting. The form may capture the number of needles/syringes distributed, condoms/lubricant provided and delivery of ATS kits. The form may also capture data about potential referrals for HIV/STI testing, OAT referrals, and PrEP referrals. A difficulty with analysing this service delivery is that 100% of referral data is marked as "Yes" (see Figure 2 below). It is understood that MdM uses a separate dataset to record and monitor client referrals and potential cascade outcomes. Ensuring the ability to link these datasets via the unique client codes will be important to understanding service delivery for new initiates but was beyond the ability of the current analysis.

Figure 2: MdM Prevention Data Collection Form example

Needles & Syringes (NS)	Condom & Lubricant	HIV testing		STI	OST	PrEP
Inform (NS)	Inform (C&L)	HIV Prev Edu	Inform about HIV testing & Refer (H)	Verbal screen & Refer (S)	Inform & Refer	Inform & Refer (PrEP/PEP)
Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes

4.3 Qualitative interview results

4.3.1 Participant characteristics

Service clients

Eighteen service clients were recruited for one-to-one KEI (five from Mohyin, six from Mogaung and seven from Hopin); 16 men and 2 women, aged 20-45; 12 new initiates, and six professional injectors.

Twenty-one service clients were recruited for FGD (seven per study site); 20 men and one woman, aged 19-50. While no new initiates were recruited for FGD (see methods 3.2), four professional injectors were recruited. All FGD participants had been injecting drugs long-term; some reporting up to 20 years.

Service providers

Nine service provider participants were recruited (three per site) to complete one-to-one KEI, including eight men and one woman, aged 23-29. Eight service providers were classified as CWs and one a Prevention Officer. Service providers reported harm reduction working histories of between four months and 12 years.

4.3.2 First injection behaviour

Most participants reported non-injecting drug use (often long term), prior to initiating injecting drug use, with transition to injecting often influenced by financial reasons. Participants reported the lower cost of injecting drug use, compared to other forms of administration.

> *"I inhaled once. And I used to inhale whole bottle; it's all used up at once. When I inject it, I put it into the syringe and I can do it for about two or three times. That's a relief".* (KEI participant, new initiate, Mohnyin)

Peer influence, experimentation, and easy accessibility of drugs in study townships were additionally reported as contributing to injecting drug use initiation.

Heroin was the most common drug of initiation. Often, new initiates were assisted to initiate by peers or family members, often in private locations such as homes or secluded locations such as farms, forests or cemeteries. After a short period – generally after a few injections or days – but also reported that initiates were able to inject themselves. Professional injector participants reported seeing individuals initiated at the shooting gallery.

> *"New users injected by peers who come with them and start injecting themselves after two or three days".* (KEI participant, professional injector, Mohnyin)

> "*I couldn't find A-mei (opium) and asked my friend for help, who has only A-phyu (heroin). It was raining and not possible to inhale, so he injected me at a cemetery, just 1000 worth and I started to inject from then on*". (FGD participant, Mogaung)

Even so, some new initiates reported being discouraged from injecting by those who knew them, or by professional injectors.

> *"…It was my own decision…Friends who are inhaling discouraged, but I can't help it".* (KEI participant, new initiate, Mohnyin)

> *"Markers (professional injectors) assist the injectors, but they also deter; if someone who is inhaling would start to inject, these markers know the users well, and all would deter from injecting, nobody wants us to start"* (KEI participant, new initiate, Mogaung)

It was often reported that many participants had initiated injecting while working in jade/gold mines, with the reported perception that most miners used drugs, and that mine bosses provided drugs to workers as a form of payment, or that people who inject drugs were specifically recruited for employment.

> *"I started to use when I worked in gold mines. Bosses there would provide drugs to workers, usually…They provide three times per day; one in morning, one in afternoon, and one at night".* (KEI participant, new initiate, Mogaung)

"Mine owners prioritise drug users who may work well with drugs". (FGD participant, Mohnyin)

4.3.3 Risk associated with injecting drug use

All service client participants, but particularly longer-term injecting participants within FGDs, reported engaging in or observing injecting drug use risk behaviours, such as overdose, skin and soft tissue infections, and BBV transmission. In terms of protective factors, many participants reported proper disposal of injecting equipment, awareness of BBV transmission methods and safe injecting methods.

Drug overdose was reported as common, with many service client participants aware of the risks posed by combining alcohol and opioids. Professional injectors discussed the dangers of opioid overdose, particularly for shooting gallery attendees who had been drinking alcohol. Informal harm reduction measures were implemented by professional injectors in such circumstances, such as reducing a client's drug dose, or refusing service.

"Some who took alcohol may get shock (overdose) after injection. We don't let these people inject if we know". (KEI participant, professional injector, Mohnyin)

MdM works with shooting galleries and professional injectors with training and resources to manage opioid/drug overdose. Shooting galleries are provided with Naloxone, which is re-supplied as needed. However, such supply was reported as sporadic, due to both limited stocks of Naloxone and interrupted by frequent raids on shooting galleries by police and other armed groups.

"We provide Naloxone to beats which we trust, and give them with paperwork to fill out, so they can return record when it is used up. This arrangement is stopped now, after police raids. It might restart when conditions get better: CWs can't go to beats at nighttime when they have overdose at nighttime users". (KEI participant, service provider, Mogaung)

Needle/syringe sharing was reported by both service clients and providers as infrequent, though still occurring practice, particularly when encountering barriers to needle/syringe acquisition.

"When I go for injection outside with friends, I am afraid I might use the used needles. I encountered one time. We did not have enough syringes, and my friend told me to use it after he injected. I refused…and buy new syringe from store. That is why later I inject at home only and don't go elsewhere". (KEI participant, new initiate, Mohnyin)

"—when they have drug in hand and desperate to use, (service clients) don't want to spend time finding new needles from afar…when they can't get it (sterile needle/syringe), they might wash and use what they can find near-by". (KEI participant, service provider, Mogaung)

Barriers to needle/syringe access in mining areas beyond the current reach of CWs, were also identified.

> *"…there are also new initiates in gold mines. Sometimes gold mines are far and in forests, hard to reach by our CWs. In such times, they (service clients) have to share needles/syringes among users, and also reusing of a single syringe*". (KEI participant, service provider, Hopin)

> *"…like I said, for mining areas, where there is no needles/syringes, it is worse".* (KEI participant, new initiate, Mogaung)

Needle/syringe sharing was also reported to be made more likely when raids on shooting galleries occur, which is often a primary source of needles/syringes.

Regarding injecting practices early after initiation, or during initiation, many participants recalled using a sterile needle/syringe and adverse events at first injection were reportedly rare.

> *"I have heard of safe injection techniques and know places not to inject when I listened to health education talks".* (KEI participant, new initiate, Hopin)

> *"Peers would say not to share needles not to get infected, and to buy at the store when in need".* (KEI participant, new initiate, Mogaung)

Even so, other risks were reported during first injections, such as injections missing veins, or overdose.

> *"For first time, I was drunk and when drug injection started, it comes up straight to my forehead and they say I was shocked (overdosing). It's not okay with alcohol. I thought 1000MMK worth is little and won't cause trouble. I told the uncle who injected me, it's coming and rising up rapidly, and after that I blacked out and did not remember anything…".* (KEI participant, new initiate, Mogaung)

Professional injectors reported employing informal harm reduction methods at shooting galleries, such as limiting the dose provided to clients they suspect of being new initiates.

> *"We ask if he had ever injected. If it is his first time, we tell him to limit (drug intake) to a small dose – 'just this much' we tell a new injector".* (KEI participant, professional injector, Mogaung)

Almost all service provider participants believed that new initiates had little awareness or understanding about safe injecting practices or injecting associated risk, and that it was part of MdMs strategy to increase awareness via education materials.

> *"Some new injectors may not be aware of risk, but you can say it is improved than before. We saturate them with health education mainly about HIV infection".* (KEI participant, service provider, Mogaung)

"They don't know much knowledge as a new injector, and they might not care about these infection risks". (KEI participant, service provider, Mogaung)

4.3.4 Harm reduction services

Service clients

MDM provides essential harm reduction interventions at all three study sites. Needle/syringe distribution and community-based blood testing are the most widely accessed among service client participants. Participants also reported awareness of overdose management training/naloxone provision in shooting galleries and other forms of harm reduction, such as information, education and communication materials.

Needle/syringe distribution could be accessed via multiple mechanisms, including via shooting galleries, via a box placed outside the CWs residence, via fixed-site KPSCs, and also home visits by the CWs. Multiple participants reported difficulty acquiring sufficient needles/syringes when needed, often due to external factors, such as raids on shooting galleries or due to working in mines.

"Needles/syringes are provided at beat by MdM. These days, they say transportation problems exist and actually we don't get enough, but we have to manage on our own". (KEI participant, professional injector, Mogaung)

"Regular supply of needles/syringes is provided to users, only occasionally there can be disruption in supply, sometimes stock out in the morning, and restock in the evening. When it is used up, we would buy from outside". (KEI participant, professional injector, Mohnyin)

Additionally, there were reported limits to the number of needles/syringes that could be acquired at any one time.

"The beats (shooting galleries) give us new needles/syringes, given by MdM…up to 3-4 needles/syringes". (KEI participant, new initiate, Mogaung)

"I can take about 5-10 syringes whenever I come to drop-in centre". (KEI participant, new initiate, Mohnyin)

Community-based BBV testing from CWs was reported, although reportedly this service is only available for HIV screening testing. More comprehensive testing for viral hepatitis and STIs was reportedly only available at fixed site KPSCs.

"(Received) HIV test…near the beat…given the results and told to retest six months after. Have not been to the drop-in centre". (KEI participant, new initiate, Mogaung)

Clients returning positive HIV tests via community-based testing are supported to come to the fixed-site KPSC for confirmatory testing, where further testing for viral hepatitis is also available.

A difficulty with the additional service available from the fixed-site KPSC is the infrequency within which clients visit the centre.

> *"The drop-in centre is far and some users no longer come here".* (KEI participant, professional injector, Mogaung)

> *"I've not been to the drop-in centre myself".* (KEI participant, professional injector, Hopin)

Regarding services for new initiates, many participants, including some new initiates reported the perception that there were no specific services tailored to their needs.

> *"No additional service for new injectors".* (KEI participant, new initiate, Mohnyin)

Service providers

While many CWs reported similarly to service clients - that service provision is similar across client types, without specific services tailored for new initiates, there were reports of different approaches, even if not formalised.

> *"For new initiates, we don't (stress) they get blood test on first encounter. They may disappear, so only at second encounter, we would tell them".* (KEI participant, service provider, Mohnyin)

> *"For new ones, I would have to put in a little effort on my part giving health education. After that, he returned to the list of old people".* (KEI participant, service provider, Mohnyin)

Otherwise, reported service provision matched MdM's service package. Still, there were noted details about how some CWs may need to conduct their harm reduction work. For example, one Hopin based provider reported conducting community-based BBV testing in cemeteries, farms and client's homes.

> *"Community-based testing is done at CW house or isolated places where users gather, such as cemeteries, farm – we visit these places and explain about community-based testing and provide testing to those who want it".* (KEI participant, service provider, Hopin)

The hidden nature of new initiates understandably poses a challenge in identifying, and therefore engaging, new initiates. Most often, CWs reported engaging with new initiates in shooting galleries.

> *"Here (KPSC), we find only two new initiates up to now. That's all there is. When they come to the drop-in centre and asked about his information, I found out that he was a new injector. When we do field visits to beats, we find more new injectors".* (KEI participant, service provider, Mogaung)

Even after identification, engagement can be difficult, with new initiates potentially reluctant to engage with services. Rapport and trust can be difficult to build with new initiates, with one CW reporting it may take one-two months before they were able to approach new initiates in some cases.

> *"Hidden nature of new initiates poses a challenge. It may be one or two months to be able to approach".* (KEI participant, service provider, Mogaung)

But this same CW reported that once initial contact had been made, they are able to provide harm reduction services as they normally would.

> *"Main challenge is to get initial contact with new initiate; if we get contact and get trust, we can tailor the approaches depending on the situation; to give health education messages, to convince him to get blood test, etc. we may offer community-based testing or mobile testing to choose".* (KEI participant, service provider, Mogaung)

Still, social stigma is an understandable barrier to service engagement.

> "New initiates *who start (injecting) would not let their family know. CWs would notice only when he send someone to get needles/syringes, and get lost after that; wouldn't let anyone know for first 1 to 2 months. They are totally hidden, and hard to find out*…". (KEI participant, service provider, Hopin)

> *"…if you start using drugs, you are embarrassed and don't want others to know. Some will not come pick needles here, they might get it through someone. And for those who inject due to financial reasons, transportation can be difficult when they can't use motorbikes…".* (KEI participant, service provider, Mohnyin)

There were multiple reported challenges for CWs to carry out field activities, including security issues, police raids on shooting galleries, communication difficulties due to phone line disruptions and resistance from community. Some drug dealers in rural villages have less collaboration with harm reduction services and may be disinclined to have needles/syringes distributed from their locality, preferring to sell drugs without needles/syringes.

In Mogaung in particular, it was reported that many service clients do not attend fixed site KPSCs, and therefore, do not engage with the services provided there. The disinclination to attend fixed-site KPSCs was largely attributed to the distance of the centre from communities, although it was reported that MdM had previously shut down a fixed-site KPSC that was frequented by service clients due to community resistance.

> *"They don't come to use services at drop-in centre, since it is far for them. We might ask old injectors to spread…information that drop-in centre offer services and can come and get needles here".* (KEI interview, service provider, Mogaung)

A further barrier to service provision is the difficulty posed by illegal mine operations, where geographic barriers, transportation difficulties and security issues were all noted. Some service clients were reported to collect needles/syringes when coming into communities, with the concern that their acquisition may not be sufficient.

> *"CW may not reach far away gold mine areas where there are users due to transportation difficulty. Users from mines would come to collect needles when they reach town. In rainy seasons and floods, they may stock out of needles/syringes".* (KEI interview, service provider, Hopin)

4.3.5 Suggestions to improve HR services

For clients and providers alike, the most common suggestion to improve service delivery was to ensure consistent and sufficient supply of needles/syringes. Beyond this, to better identify and engage with new initiates, multiple service clients suggested better or more prominent promotion of services, such as using posters at shooting galleries, or providing health education materials, such as pamphlets, again at shooting galleries.

One professional injector suggested they could have a greater role to play in this.

> *"We would know if someone is new right away. Our job is to monitor those in and out at the beat, and we notice if someone is not from here. CW would ask new initiates directly – they don't ask us if someone is new. We (could) encourage new initiates to go with CW to MdM office".* (KEI participant, professional injector, Mogaung)

Service provider participants suggested multiple potential improvements to service provision targeted towards new initiates. Along with additional health promotion activities, service providers suggested use of snowball recruitment techniques, using professional injectors, older injectors or new initiates to find other new initiates, facilitated by incentives.

> *"To have new initiates working as CW and network more new users".* (KEI participant, service provider, Mogaung)

> *"May be in kind incentives to those who inform about new initiate".* (KEI participant, service provider, Hopin)

> *"Older injectors…can inform CW when they notice new users and CW will think of ways to approach".* (KEI participant, service provider, Mogaung)

Incentives were also suggested as methods to increase engagement with testing, or even as a method to have new initiates access the fixed-site KPSCs.

4.4 Co-design workshop outcomes

Following Phase 1 of the co-design workshop (summarising of MdMs current service provision, international literature and qualitative interview findings), participants moved onto Phase 2, the idea generation Phase. During Phase 2 participants brainstormed with a specific focus on

information and education for new initiates, access to existing services, and harm reduction equipment coverage.

Service providers and clients reflected on ways to engage new initiates, with ideas relating to: Peer-to-Peer referral and a community worker network. Service providers also brainstormed use of hotlines, community events, Social Network Strategy mobilisers, and professional injectors to support harm reduction efforts. The hotline and Social Network Strategy are interventions currently being implemented by MdM as novel interventions targeting new initiates which will form part of later evaluation during Projects 2 & 3.

When considering who might provide education, clients considered experienced injectors, professional injectors, peer community workers, and non-peer community workers. Posters, pamphlets, and songs were considered as possible ways of communicating information and education by clients and service providers, with service providers also considering health education videos, health education booklets, visiting cards, and promotional materials like keychains, shirts, and hats.

Clients considered the following locations for dissemination of information and education materials: KPSCs, shooting galleries, gold mines, markets, pharmacies, gas stations, and home delivery. Service providers brainstormed the following locations: teashops, shooting galleries, high schools and universities, youth camps or monasteries, and public setting like markets, railway stations, pharmacies, and sporting venues.

When brainstorming ways to improve current services, service providers generated the following ideas:

- Relocation or rebranding of fixed-site KPSCs;
- Incorporating community-based testing for new initiates in convenient settings such as homes, farms, wards, villages, or shooting galleries;
- Community-based testing including confirmatory tests to prevent new initiates from dropping out of the process for follow-up testing;
- To shorten the waiting time for blood testing; and
- Distribution of new injector kits which would include needles/syringes, alcohol pad, water, condom, IEC, etc.

Clients brainstormed ideas about equipment coverage which included assessing injecting frequency and providing additional equipment, distribution of equipment via drug dealers, and ensuring 24-hour access to equipment at KPSCs. The ideas generated by service providers about ensuring equipment coverage also included links with drug dealers, ensuring 24-hour access to equipment, and injecting equipment kits to new initiates which included needles/syringes, alcohol pads, water, condoms, and safe injecting information.

During Phase 3 of the workshop, ideas were consolidated and prioritised. The consolidated ideas were used to develop the draft program logic.

4.4.1 Proposed draft program logic

Following the co-design workshops, the draft program logic was drafted (Table 4) to consolidate key components. The draft program logic includes targeted efforts to specifically engage new initiates, ensuring they receive tailored engagement and support alongside broader harm

reduction strategies. However, many of the harms being addressed, such as risk of BBV transmission and overdose, effect all people who inject drugs, not specifically new initiates. As a result, the elements of this draft program logic are not necessarily unique to new initiates.

The draft program logic should be considered preliminary based on current evidence, qualitative data, and insights from the co-design workshop. As a result, some elements require further discussion with MdM and eventual finalisation. Additional work will also be needed to finalise the proposed mechanisms of change and process measures. For example, while risk of overdose was identified as an *area of need*, participant did not specifically identify overdose interventions (such as naloxone provision) as a core component. We will finally conduct logic-checking with co-design participants to confirm the appropriateness of proposed outcomes and outcome measures.

Areas of need

Four drafted areas of need for the tailored new initiates program were identified, detailed in Table 4.

1. How to *identify and engage new initiates*;
2. How to *improve knowledge about safe injecting practices*;
3. How to *enhance BBV prevention*;
4. How to *reduce the risk of overdose*.

Core components and flexible activities

Co-design workshops identified four core components that should be included in the future model of care, and the corresponding activities that harm reduction interventions may use to operationalise them, and why they are expected to address the areas of need (Table 4):

1. *Identification and engagement of new initiates via peers* involves experienced injectors and peer community workers. This may also include use of financial incentives to encourage new initiates to attend harm reduction services. Both clients and service providers identified experienced injectors and peer community workers as possibly playing a role in engaging new initiates. Peer delivered naloxone could be a flexible activity here.
2. *Take away information, education, and communication (IEC) material,* including information about how and where to source injecting equipment to minimise BBV transmission and the necessary equipment and injecting methods to prevent injecting related infections and overdose mitigation/management. This may include pamphlets or posters available at shooting galleries or mines if permitted, as well as train stations, pharmacies, or other public venues. Importantly, IEC as an intervention goes beyond pamphlets/posters to include coordinated education sessions for individuals and groups in both community and service-level settings.
3. *Enhanced needle and syringe provision* is an essential component of any harm reduction intervention for people who inject drugs. This may include provision of a kit specifically for new initiates which includes needles and syringes, alcohol swabs, water for injection preparation, condoms, and IEC material at shooting galleries, distribution via professional injectors, and discreet access to injecting equipment via community peer worker houses or guaranteed 24-hour access to needle/syringe boxes via existing services.
4. *BBV screening* includes screening for viral hepatitis and HIV in convenient settings such as homes, farms, wards, villages, or shooting galleries, with confirmatory tests in the

community where possible to better support through-put to confirmatory testing for new initiates.

Outcome measures

Co-design workshop participants identified outcomes and outcome measures, suggested to monitor effectiveness of the targeted harm reduction activities. These, described in Table 4, were identified based on goals and aspirations from co-design workshop participants, and shaped by insights gathered during the workshop.

Table 4: Co-design workshop draft program logic

a. Area of need *What are the client needs being addressed by the program?*	b. Core components *What should services do to address the specific problem areas being targeted?*	c. Flexible activities *How might this be done at different services?*	d. Outcomes (outcome measures) *How to measure extent to which client needs are addressed?*
1. Identify and engage new initiates *2. Improve knowledge about safe injecting practices* *3. Enhance BBV prevention* *4. Reduce overdose risk*	Core involvement of experienced injectors and peer CWs. Encourage and motivate engagement.	• Financial incentives to encourage service engagement • Professional injectors to engage new initiates • Peers to engage new initiates • Peer naloxone provision	1. No. of new initiates engaged with intervention (MdM demographic data) 2. Improved knowledge about safe injecting practices (client survey) 3. Reduced blood-borne virus incidence (MdM clinical data) 4. Reduced incidence of overdose (MdM clinical data)
	Take away information, education, and communication (IEC) material in wider variety of locations, coordinated education sessions in both community and service-level settings.	• Posters • Pamphlets • Education on safe injecting practices • Education about overdose risk/mitigation	
	Enhanced needle/syringe provision, provision of needle and syringe kits specifically for new initiates	• Dealers' homes • Shooting galleries • New injector kits • Home delivery by community worker	
	Blood-borne virus screening	• Community based testing • Testing in shooting galleries • Incentivised testing • Training peers to provide testing	

5.0 Discussion and Recommendations

5.1 Current MdM service provision and service-level data analysis

5.1.1 Current MdM service provision

MdM service providers demonstrated a commitment to effective and accepted harm reduction interventions (11), delivered in a comprehensive and person-centred manner. The work conducted by MdMs cadre of CWs is especially impressive, with these workers a primary source of privileged information and important facilitators of client engagement and harm reduction service delivery. This area of work is particularly relevant to the identification of and engagement with new initiates.

When discussing service delivery, the priority of sufficient needle/syringe distribution was emphasised, with MdM representatives detailing the multiple locations of potential needle/syringe acquisition for clients, including the fixed-site KPSC, shooting galleries and community workers homes being potential sources of distribution. However, it was mentioned in the meetings that there are limits on the number of needles/syringes provided to clients, depending on the context of the engagement. However, how the collection of anonymous needles/syringes from CWs home, and possible secondary distribution, may factor into this and subsequent calculations of coverage, needs to be determined. Further, while it was confirmed that community-based BBV testing is available, there are limits to this, with comprehensive HIV, viral hepatitis and STI screening available only on days the CMC team visit community or at the fixed-site KPSC.

5.1.2 Service-level data analysis

Between 1/6/2024 and 30/09/2024, 83 new initiates were reached via 554 service engagements across the three study sites. While engagements with new initiates represents only 1% of engagements with other clients (total of 40,277), new initiates were engaged with a median of three times (IQR: 1-11) during the study period. Analysis comparing new MdM client engagements and total engagements suggested comparable sex/age demographics across client groups and that new initiates were more likely to report ATS use, and that there existed some differences in engagement characteristics across geographic study sites. While the three sites had similarly small numbers of new initiates compared to overall clients, geographical comparison showed that new initiates engagements in Mohnyin largely occurred at shooting galleries and street settings, compared to other sites which occurred more often at clients 'homes'. At any engagement, new initiate clients received a median of 10 needles/syringes (IQR: 3-15), comparable to other clients. The median total needle/syringe acquisition for new initiates was 24 (IQR: 0-87) over the four-month study period, compared to 20 (IQR: 0-74) for other clients. If these totals are used to estimate acquisition across a full year (four-month total multiplied by three), both clients groups fall below the WHO/UNAIDS/UNODC recommended level of 200 distributed needles/syringes annually to limit HIV transmission (though this recommendation has been increased to 300 annually by 2030 in response to the viral hepatitis epidemic, 11,12). Additionally, despite recommendations by international organisations, it is likely that 200 needles/syringes does not provide for the annual injecting needs of most Myanmar clients (9). However, again, the accounting of anonymous needle/syringe collection from CW homes and secondary distribution needs to be considered in coverage calculations.

As related in qualitative interviews, very few client engagements (less than 5%), with any client type, occur at the KPSCs. Broad regional differences between study sites were noted. Finer-grained analysis of geographic client location (e.g. village/wards) was beyond the scope of this work, though this is an obvious area of inquiry for service implementation.

The amendments made to the Prevention Data Collection Form, therefore, allowed for data capture and analysis that will be crucial for monitoring service delivery targeted to new initiates and for guiding future implementation and evaluation of tailored interventions. However, multiple issues were noted with data capture of new initiate data:

1) Data on time since injecting initiation was completed inconsistently, and often not at a client's very first MdM engagement
2) Data on time since injecting initiation was sometimes recorded ambiguously, with potential to interpret as being longer ago than the 12-month definition
3) Following data refinements, the new amendments may support analysis of temporal trends of engagement with new initiates, thereby having the ability to prospectively validate anecdotal evidence from MdM outreach staff regarding increases in new initiate engagement
4) The Prevention Data Collection Form potentially does not accurately capture referral data for HIV/STI testing, and OAT/PrEP referrals. Ensuring ability to link to other testing/referral/treatment data will be important for future evaluation.

As above, this formative assessment provides the opportunity to review implementation of adaptations to MdMs data capture practices, suggesting areas for improvement and training. The consistent and accurate capture of new initiate client data will be important to the future fidelity of targeted intervention/s.

While initial quantitative findings provide early insights to assist with the tailoring of interventions for new initiates, the analysis is preliminary and should be considered in light of data quality. The results also raise many questions. Prior to engaging in the formal tailoring of program activities for new initiates, the findings contained in this report should form the basis of reflective discussions with MdM Kachin service providers.

5.2 Qualitative interview results

We conducted multiple qualitative interviews via KEI and FGD with service clients and service providers across thee MdM Kachin sites, including with new initiates. Motivations identified for initiating injecting drug use were consistent with international literature, with participants citing financial reasons, peer influence and experimentation (2,4). First injections often took place in secluded or otherwise private locations, and soon after first injection, most were able to inject themselves.

Reports of early injecting episodes occurring in shooting galleries and illegal mines provides some guidance for possible intervention. Indeed, participants working as professional injectors discussed their own informal harm reduction interventions when engaging with new initiates, including discouraging them from injecting, or perhaps continuing to inject, or reducing the drug dose to

help reduce the risk of opioid overdose. Further, collaboration with shooting galleries and professional injectors to support the identification, engagement and education of new initiates may be a beneficial inclusion in tailored intervention/s. Previous Myanmar research has suggested harm reduction benefits among individuals primarily acquiring needles/syringes from shooting galleries, supporting them as an effective location for harm reduction delivery (13). Service delivery to illicit mining operations, on the other hand, was not reported. Locations where mines are present have previously been suggested as potential 'hot spots' for HIV transmission via demographic and drug use changes to community resulting from mining presence (14). Our interview data suggested high levels of injecting drug use occurring in illicit mines, including injecting initiation, often facilitated by mine owners who were reported to both intentionally hire people known to inject drugs as mine workers, and to supply drugs to mine workers in lieu of payment. Exploring the feasibility of travelling to, and engaging with, illicit mine operations is recommended.

Regarding service delivery, sufficient provision of needles/syringes was repeatedly stressed by service clients and providers alike. While service clients recognised that sterile injecting equipment could be acquired from multiple sources, insufficient distribution was highlighted (as noted in service-level data above), and often attributed to external factors, such as raids on shooting galleries. Similarly, there were practical limits on the provision of BBV testing, with only rapid-HIV screening testing provided in community settings performed by CWs. It was reported the CMC team visits communities twice weekly to provide comprehensive HIV, viral hepatitis and STI screening. It may be that this is sufficient to meet screening demand but may benefit from additional assessment.

For new initiates, no specific, targeted interventions were identified as being currently implemented by MdM. However, service provider participants talked about their ability to identify new initiates due to their familiarity with local drug injecting communities, and that once identified, they would make special effort to engage with these individuals. While not specified in qualitative interviews, service-level data suggested either a greater number of new initiates or differences in engagement strategies in Mohnyin compared to other sites. Initial engagement was reportedly, and understandably, difficult, with significant time required to build rapport and trust with newly engaged new initiates. One service provider reported that it could take between one-two months before they were able to approach new initiate clients. The role here of social stigma is profound (15). Once engagement was made, service provider participants reported giving special attention to new initiates, but in terms of the services provided, these were not especially targeted and did not necessarily differ from those provided to other clients.

Finally, qualitative interview participants were asked to provide suggestions for improved service delivery, targeted at new initiates. Along with more comprehensive needle/syringe distribution and a focus on IEC materials, including prominent posters being displayed and pamphlets being handed out and shooting galleries being suggested as a focal point for IEC delivery. Variations on peer-supported interventions were suggested, including recruitment of already engaged new initiates or of more experienced peers in a quasi-snowball methodology to facilitate relationship building with new initiates. This may be helped by professional injectors or using monetary incentives. Finally, recognising the more comprehensive nature of services provided at the fixed-site KPSCs, and the fact that many clients do not engage with the fixed-site service, participants suggested methods of increasing access to BBV testing, such as planned 'testing days' in

communities, or somehow incentivising disengaged clients to visit the KPSCs, either with cash payments, or via worker supported transportation.

5.3 Co-design workshops

The draft program logic developed through the co-design process brings together core components to improve both the accessibility and effectiveness of harm reduction interventions for new initiates. This process integrated the expertise of researchers, service providers, and clients. The draft program logic comprises core components that could be standardised across any harm reduction intervention for new initiates, with preliminary suggestions for how these core components may be operationalised by flexible activities. Aligning these with the problem being addressed (areas of need) and outcome measures to assess program effectiveness provides clarity about why the intervention may be effective.

The draft program logic includes focused efforts to engage new initiates, proposing tailored support in addition to broader harm reduction strategies. Therefore, the elements within this draft program logic are not exclusively designed for new initiates, but rather, consideration was given to any additions to existing services, or adaptations to service delivery that may better engage new initiates.

Four drafted areas of need are described in the proposed draft program logic. A primary area of need is the *identification of new initiates* to ensure effective engagement. Enhancing the *limited knowledge of safe injecting practices among new initiates* involves ensuring that clients are informed about where and how to access injecting equipment and essential information. This also includes providing the necessary tools to support safe injecting and reduce risks such as BBV transmission, injection-related infections, and overdose. The risk of *BBV transmission* is linked to sharing injecting equipment, a behaviour potentially more common among those with less injecting experience. Likewise, educating new initiates on the risks of injecting, including how to recognise and respond to an overdose, is crucial for reducing *overdose risks.*

Four core components for prospective, tailored harm reduction intervention/s were proposed in the draft program logic. *Identification and engagement of new initiates* via the core involvement of experienced injectors and peer community workers to encourage and motivate new initiate engagement, such work will support the areas of need potentially via the provision of needles/syringes or IEC material, or via peer distribution of naloxone. Distribution of *take away information, education, and communication material,* including information about overdose mitigation/management, involves providing new initiates with information to help them inject safely. Distribution of sterile *needles and syringes* may take various forms to adapt to the capacity of services, engagement of other stakeholders, and needs of clients. Finaly, *BBV screening* was identified as a core component of interventions, with mobile screening in settings such as homes, farms, wards, villages, or shooting galleries, and confirmatory tests in the community where possible.

5.4 Recommendations

This mixed-methods formative assessment, utilising multiple research components, provided an initial description of the experience of new initiates to injecting drug use, and MdMs current

harm reduction response, across three research sites in Kachin State, Myanmar. Through our use of qualitative interviews and co-design workshop methodologies, key insights and preferences for tailored interventions targeting new initiates were gained.

Overall, it was reported that MdMs current harm reduction service delivery in Mogaung, Mohnyin and Hopin is high quality, representing a package of internationally recommended interventions (11) designed to meet the varied needs of a diverse client group, delivered via person-centred and innovative mechanisms. Importantly, the commissioning of this work also demonstrates MdMs commitment to continual innovation to address identified gaps in service delivery to vulnerable risk groups, in this case, new initiates.

It is important to reiterate that this work is intended to be preliminary, providing a foundation of data and insights on which to collaborate and build either a single intervention, a series of interventions, or modifications to existing interventions, to better serve new initiates as a target risk group. Subsequently, this work – constituting Project Phase 1 - was always conceived as only the first part of a broader, multi-year project (see Appendix 1).

The next project phase will begin with multiple meetings between Burnet Institute and MdM to discuss the findings and recommendations of this report and together, develop tailored intervention/s for new initiates. This process will again include strong involvement from the target community, and will utilise an ongoing, iterative design, whereby any implemented intervention/s are continually tested, evaluated and potentially amended to increase effectiveness.

To support this work, the following recommendations are made:

- Development of tailored intervention/s targeting new initiates: As above, this work may not result in a final, single intervention. Rather, following completion of this formative assessment and collaborative meetings between Burnet Institute and MdM, based upon suggestions by participants in qualitative interview and co-design workshop, a series of interventions or modifications to existing interventions may be developed and implemented.

  The tailored intervention/s should encompass the four core components specified by co-design workshop participants: 1) Identification and engagement of new initiates, 2) Information, education and communication material, 3) Enhanced needle/syringe distribution, and 4) BBV screening, as broad guiding principles.

  Based upon insights and suggestions made by service clients and providers during this formative assessment, the tailored intervention/s may include the following activities:
  - Peer-facilitated engagement: Identification and engagement (including rapport building) of new initiates facilitated by affiliated peers, being other new initiates, older injectors and/or professional injectors. These recruited peers may support community workers to source and engage with new initiates. Peer-delivered naloxone may factor here (Core component #1)
  - New initiate kits: Specially developed injecting equipment and information kits that could be provided to new initiates at first engagement or soon thereafter.

These “new initiate kits” may include evidence-based information about risks associated with recent initiation of injecting, with supportive harm reduction messaging and information about how to engage with harm reduction services. Such kits may support the building of trust and rapport with individuals reluctant to otherwise directly engage with workers. (Core components #2 & 3)

- IEC material: Similarly, participants suggested designing targeted IEC material, that may come in the form of distributed leaflets/pamphlets or posters affixed in relevant locations (such as shooting galleries). IEC material designed for new initiates may also take the form of specially designed one-to-one or group education programs. (Core component #2)
- Locations of focus: Participants highlighted shooting galleries as locations of focus for service delivery for new initiates. There is an obvious rationale here as MdM already has significant collaborative relationships with shooting galleries and the professional injectors who work there. Indeed, professional injectors themselves reported multiple informal harm reduction strategies they employ when engaging with new initiates.

  Alternately, responding to injecting risk occurring in illicit mining operations may present a specific challenge for service delivery. Reports suggested that many participants have or continue to work in illicit mines, that injecting drug use is prevalent in mines – with some mining operators providing drugs to mine workers - that many individuals initiated injecting drug use in mines, and that needles/syringes are often in insufficient supply. The current level of engagement between MdM and illicit mines is unclear, and there may be substantial barriers to overcome (such as geographical barriers), but exploring means of accessing and working with illicit mines may support new initiates, and people who inject more broadly.

  Finally, service-level data demonstrated that both total and new client engagements do not occur homogenously across study sites, with engagements in Mohnyin more likely to occur in shooting galleries and street settings. While these locations should definitely have a specific focus, this should not be at the expense of other possible locations of services delivery, which should be comprehensively mapped and assessed. (Core Component #1)
- BBV testing: While MdM already provides community-based BBV testing, there are limits to this, which were identified in this work and were described by study participants. Determining the reach of MdMs community-based testing strategy may prove important to supporting new initiates, and if found insufficient, exploring additional means of expanding testing may also prove beneficial. Co-design workshop participants identified BBV testing as a specific area of need, and suggested testing in shooting galleries, monetarily incentivising testing (although such an intervention should be approached cautiously), and training peers to provide testings, all as ways to potentially achieve this expansion. (Core Component #4)
- Overdose mitigation/management: While not specifically described as a core component by workshop participants, the risk of overdose was noted as an area of need. Subsequently, interventions designed to mitigate and manage risk of overdose, tailored to new initiates should be considered. (Core Component #1 & 2)

- Accelerated engagement: A key difficulty of providing services to new initiates is the identification and subsequent engagement of this sub-population. Overcoming these difficulties will mean greater ability to provide harm reduction services and potentially reduce BBV incidence. This assessment highlighted some methods by which identification is already happening, such as via shooting galleries, but the building of rapport and trust with new initiates was noted as a difficulty. With this in mind, developed, tailored intervention/s should explore methods to 'accelerate' client engagement. Some intervention characteristics recommended here, such as peer-facilitated engagement or new initiate kits may support this, but accelerated engagement should be prioritised as a general concept for all interventions. Consequently, finding ways to broach contact with new initiates and having them more fully exposed to MdMs package of harm reduction services (such as better engagement with the fixed-site KPSC) may support incidence reduction. To this end, the modification of already provided services (such as BBV testing) to better target new initiates may benefit as much as the tailored intervention/s. (All Core components)

- Finalise program logic: The program logic developed in the co-design workshops is intended as a draft - crucial to the guiding of tailored intervention/s development. As part of the intended iterative process, draft intervention/s will be fed back to workshop participants as part of co-design "sense/logic checking". This will ensure that the target population remains involved in the design of intervention/s intended to support them, thereby upholding their rights, dignity and expertise. Following, the draft program logic will be finalised, providing a robust theoretical framework around which the novel intervention/s are intended to function.

- Refine data collection tools: The amendments made to MdMs Prevention Data Collection Form appear to allow for the identification of new initiates within service-level data. This is a vital step. Prior to these service-level data amendments, there was no way to analyse trends in new initiate presentations, repeat engagements or to monitor service delivery to this identified risk group. Considering the internationally recognised risks associated with recent initiation of injecting drug use – particularly related to elevated HIV and viral hepatitis incidence (5,6) – the amendment to routine data collection may represent a particularly innovative change to MdMs service-delivery, allowing for a more detailed understanding of service engagements and delivery among new initiates.
  However, the data amendments are new and refinements are recommended (as listed above). Ensuring MdMs data system is capturing accurate data, consistently across sites, will be vital in supporting planned evaluation in Project Phase 2 & 3.

- Enhance needle/syringe distribution: Insufficient needle/syringe availability was consistently reported by both service clients and providers in qualitative interviews and co-design workshops. Service-level data suggested that estimated annual needle/syringe acquisition among all clients was below the internationally recommended level of 200 sterile needles/syringes annually (11), and potentially not enough to meet client need (9). The role of other forms of needle/syringe distribution not necessarily captured in service-level data – such as anonymous distribution from CW homes, or secondary distribution –

needs to be determined. Additionally, understanding the awareness of new initiates of other forms of needle/syringe distribution should also be assessed.
While respecting that the ability to provide adequate needles/syringes is based on many factors - including funding, geographical accessibility, consumable purchasing, etc – there were noted MdM practices that inherently limit needle/syringe acquisition, such as having fixed numbers of needle/syringes dispensed at client engagements.
As much as may be possible, methods of increasing and enhancing needle/syringe availability should be explored. Co-design workshop participants suggested expanded needle/syringe distribution to dealers' homes, or home delivery by community workers. It is hoped that the development of novel intervention/s targeting new initiates will reduce BBV transmission, but these efforts may be limited if needle/syringe provision is not sufficient to meet client need.

- Collaboratively develop implementation and evaluation plan: Included in future discussions between Burnet Institute and MdM to develop a tailored intervention/s, a detailed implementation and evaluation plan, co-jointly devised and agreed upon by both organisations, is recommended. The implementation/evaluation plan will cover two consecutive project years, and should include project timelines with solid milestones, monitoring and evaluation methods via which the intervention/s will be iteratively assessed and potentially amended, established measures to determine intervention/s effectiveness, and clearly articulated roles and responsibilities. Outcome measures articulated by co-design workshop participants must factor into this planning. The plan should also encompass targeted interventions that MdM have designed and implemented independently, including their hotline service and SNS intervention.

5.5 Limitations

The most important limitation of this work is the limited number of study sites involved in the co-design workshops. Due to logistical practicalities, we had intended to draw service client participants from only Mohnyin and Hopin, with workshops held in Mohnyin. This strategy immediately excluded participant from Mogaung, due to concerns about travel time. However, individuals approached in Hopin declined to participate in the workshops. We were, therefore, only able to draw workshop participants from a single site; Mohnyin. Further, while our protocol specified that workshop participants be drawn from those previously participating in qualitative interview, in order to gain sufficient numbers of service clients for the workshop, we decided to recruit other clients from the Mohnyin service who had not previously been involved in the research. Consequently, the workshop only represents the views of Mohnyin-based service clients. This limitation needs to consider variations in quantitative data (Section 4) across sites (e.g., the relative emphasis of client engagement in shooting galleries versus other locations) that may influence the way tailored programs are designed and delivered at different sites. However, many of the insights and intervention suggestions produced in the workshop do align with results from qualitative interviewing, which included participants from all study sites.

Despite attempts to recruit a variety of participant types in relation to demographics, drug use characteristics and risk group, findings may not represent additional needs of other risk groups, such as new initiates who are also men who have sex with men or female sex workers. Many new

initiates may also be reticent to engage with services, resulting in self-selection bias among our new initiate participants.

5.6 Conclusion

This work provides the foundation to create and evaluate multiple novel harm reduction interventions supporting new initiates. The person-centred and inclusive methodology deployed in Phase 1 aims to enhance the effectiveness of novel tailored harm reduction interventions in Kachin and potentially guide international harm reduction delivery.

6.0 References

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7.0 Appendices

Appendix 1. Original concept sheet developed by MdM and Burnet

Tailored harm reduction service delivery for recent injecting drug use initiates (MdM and Burnet Institute)

Background:
Médecins du Monde (MdM) provides harm reduction services to people who inject drugs in *Myitkyina, Mogaung and Mohnyin* Townships in Kachin State, Myanmar. Previous analysis of service-level HIV testing data suggests elevated incidence among recent injecting drug use initiates (within 2 years of initiation). Additional, anecdotal evidence from outreach activities suggests an increase in the numbers of individuals reporting injecting drug use initiation, and shorter transition periods between initiating non-injecting and injecting drug use.

To address these concerning trends, MdM will conduct a rapid operational situational assessment - and adapt the current intervention model - to better reach and serve new injectors. This will be done with an operational perspective and based on the immediate needs on the ground.

In parallel, Burnet will do a more formal assessment to get a better understanding of the underlaying risk-factors for new injectors, such as the process of injecting drug initiation, identifying barriers in accessing services at the early stage of injecting, including pathways to injecting and patterns of injecting risk behaviours in the proposed geographic areas, for the purpose of; (1) using the outcomes to inform and adjust MdM's intervention model, and (2) serve as a formal scientific knowledge-base to include in the evaluations and publications.

During the implementation phase, the re-designed intervention model will be accompanied by evaluation activities to inform regular programme refinement and outcome and impact assessment.

The objective of this work is to demonstrate if specific interventions, targeting recent injecting drug use initiates, is effective in reducing HIV incidence. The outcomes aim at informing intervention models in the proposed geographic locations and formulate recommendations for similar international NSP programs.

Methods/Approach (Year 1; programme year III):

1. Review and modify MDM's data collection to inform and evaluate harm reduction programme activities for new injectors

Current MdM client registration and outreach data does not collect information to identify (time since initiation of injecting) and characterise (where/with who did they first inject, how individuals learnt to inject).

Data collection tools will be updated to support sustainable monitoring of injecting risks among recent initiates. Data from updated tools will provide: 1) early quantitative data to triangulate with findings from the formative situational assessment; 2) inform ongoing iterative refinements to tailored injecting initiates harm reduction programme activities; and 3) provide key data for the overall evaluation of the tailored programme.

2. Formative situational assessment to better understand drug injecting initiation in Mogaung and Mohnyin via MdM services
   To compliment MdM's operational rapid assessment, the Brunet institute will do a formal participatory assessment to gain better understanding of: a) pathways to injecting drug use initiation; b) what shapes patterns of injecting drug use risk behaviours among recent initiates to injecting, including barriers to accessing fixed site and outreach health and harm reduction services from the perspective of new injectors; and c) current harm reduction programme activities and potential modifications to optimise coverage and better tailor these activities to meet the needs of recent initiates to injecting drug use. The outcomes of this assessment will be used to inform and adjust MdM's adapted intervention model, and will serve as a reliable formal knowledge base for publications.

   This assessment will include, analysis of preliminary service-level data collected after amendment of service forms, focus group discussions with programme clients (including recent initiates and those with longer histories of injecting drug use) and will explore similar themes to determine the concordance of client experiences with observations from programme staff and further iterate tailored programme responses. Further, a 2-3 day co-design workshop will be held with service clients to receive vital input on the design and perceived effectiveness of a the intervention model. These assessment activities will follow ethical approval from the Burnet's affiliated ethical review committee.

Methods/Approach (Years 2-3; programme year IV-V):

1. Workshop to inform adjustments and final development of intervention model
   Based on the formative situational assessment, one-two workshop/s with MdM staff will be organised to present the contextual insights and potentially adjust MdM's intervention model. MdM will identify priority pockets where new injectors are highly concentrated and scale up the intervention.

   In complement to Burnet's formative assessment work, Burnet will provide recommendations to the intervention model. Further, a period of project piloting will be undertaken to identify potential on-the-ground issues for resolution, prior to intervention finalisation.

The tailored harm reduction package will be deployed and evaluated over a two-year trial period. Over the intervention period, repeated and iterative evaluation activities will be conducted to adapt and refine the fidelity, acceptability, suitability, and effectiveness of the tailored programme will be assessed through process evaluation involving qualitative interviews/focus groups with clients and programme staff to guide possible amendments. Service-level administrative data, including client registration and outreach data modified in Year 1, and HIV counselling and testing data) will be used for outcome (changes in risk behaviours) and impact (changes in HIV incidence) evaluation. This work will involve collaboration with existing evaluation partners at the University of Bristol who have previously analysed MdM HIV testing data.

Prior to evaluation report finalisation, a workshop will be held with project stakeholders and other technical partners like WHO, UNAIDS, CPI-USAID, Technical Working Group (TWG) to discuss evaluation findings and recommendations. The evaluation report will provide information on the effective differentiated harm reduction service package tailored for new injecting initiates. It will outline requirements for enhanced program capabilities and field staff training. The report will provide tools and guidance to support the development and evaluation of localised harm reduction programmes elsewhere. Additionally, if deemed effective, advocacy efforts will be undertaken to integrate this service package into the upcoming National Strategic Plan on HIV and AIDS (2026 – 2030).

Summary of projected activities:

Year I (Program Year III) (April – Sep 2024)	Year II (Program Year IV) (Oct 2024 – Sep 2025)	Year III (Program Year V) (Oct 2025 – Mar 2026)
Review, modify and deploy updated MDM data collection tools: (include P.Vickerman in this?) Burnet ethics submission for situational assessment work <u>Formative situational assessment</u> • Client focus groups • Co-design workshops (2-3 days) with clients • Analyse early data • Interviews with MdM staff Based on the situational assessment, in a workshop (including community) the intervention model can be adjusted	Remote workshop with service providers to adjust the intervention model Following roll-out of intervention model, Burnet will conduct two field-visits – six-months apart - for process evaluation involving qualitative interviews/focus groups with clients and programme staff to guide possible amendments Ongoing outcome and impact evaluation quantitative analysis and interim reporting	Outcome and impact evaluation quantitative analysis and interim reporting Final qualitative data collection (staff and clients) to understand barriers and enablers to programme delivery and effectiveness Publish outcomes in (changes in risk behaviours) and impact (changes in HIV incidence). This work will involve collaboration with existing evaluation partners at the University of Bristol Prepare final report and disseminate findings

Timeline of projected activities:

	April-Jun 2024	Jul-Sep 2024	Oct-Dec 2024	Jan-Mar 2025	April-Jun 2025	Jul-Sep 2025	Oct-Dec 2026	Jan-Mar 2026
MdM	Do operational rapid assessment	Start adapted services	Workshop to adjust the intervention model Pilot intervention	Implement and adapt if needed				
Burnet	Review, modify and deploy updated MDM data collection tools Prepare and submit documents for ethical approval.	Formative situational assessment		field-visits for programme process evaluation		field-visits for programme process evaluation		final report and disseminate findings Publish outcomes
Deliverables/ donor reporting		Intervention Formative assessment outcomes		Outcome and impact evaluation quantitative analysis interim reporting	Outcome and impact evaluation quantitative analysis interim reporting	Outcome and impact evaluation quantitative analysis interim reporting	Outcome and impact evaluation quantitative analysis interim reporting	Outcome and impact evaluation quantitative analysis interim reporting

Appendix 2. Qualitative Interview Question Guides

Qualitative interview guide for service clients

Qualitative interviews will occur in person, at a time/location mutually convenient for participants, and will focus on the contexts/characteristics of initiating injecting drug use and how they may influence ongoing injecting practices, and availability/access of associated harm reduction interventions. The researcher will audio record the interview and take accompanying notes. The data will be transcribed by the research team, with support from a professional transcription service to ensure data security. Data will be analysed according to broad themes and the audio recordings will be securely destroyed following completion of transcriptions. Qualitative interviews will be assisted by (but not limited to) the following question guide:

1. To help us understand your experiences and perspectives, can you please provide some initial personal information and history of your use of drugs?

- Age, gender, township of residence, how long you've been using drugs, how long you've been injecting drugs, how often do you currently inject, what is your primary injecting drug of choice, what other drugs do you use/inject?

2. Can you tell us about the first time you injected drugs?

- Prompts: Prior to injecting for the first time, had anyone discouraged you to start injecting, or refused to help you inject for the first time? Did anyone introduce you to injecting drug use, if so, who was the person, the reasons why you injected the first time, did anyone encourage or coerce you to start injecting, how you learnt to inject drugs for the first time?
- Prompts: Where did you inject drugs for the first time, did you inject yourself for the first time or did someone help you, who was that?
- Prompts: [if initiated at a shooting gallery] How did you know about the shooting gallery, can you describe your drug use prior to coming to the shooting gallery, were you injected the first time by a shooting gallery 'professional injector', are shooting gallery 'professional injectors' initiating people into injecting drug use? Is injecting drug use encouraged or discouraged for new initiates by 'professional injectors'? Do 'professional injectors' provide any harm reduction advice when initiating people into injecting drug use?

3. Can you tell us about any risks you experienced when you initiated injecting drug use?

- Prompts: What drug did you first inject with, had you used this drug/s prior to injecting them?
- Prompts: What injecting equipment (i.e. needle/syringe, water, filter, etc) did you use the first time, how did you get this injecting equipment, how did you know what injecting equipment to use, did you use clean injecting equipment/had someone used the equipment before you, [if injected by another person] do you think they put you at any risk the first time you injected?

- Prompts: Describe your understanding of potential risks associated with sharing of injecting equipment. How did you learn about injecting risk? How has your knowledge changed over time?
- Prompts: How have your injecting practices changed from your early injecting episodes, [if didn't inject themselves first time], did you learn to inject yourself, how did you learn, have you changed your drugs of injection or injecting frequency, are there things you know now about injecting that you wished you'd been told when you first started injecting, how/from who did you learn these things?
- Prompts: Describe any risks you may have experienced if you initiated injecting drug use within a shooting gallery.

4. Describe the harm reduction services that you currently access?

- Prompts: Tell us about **the first time you engaged with harm reduction services**, what encouraged you to use the service the first time, did you go there yourself or did someone support you to first attend a harm reduction service (such as a friend or a harm reduction peer/outreach worker – such as by MdMs hotline or case finding initiative), did you feel comfortable accessing the service, why/why not, what services were you offered, did the service ask about how recently you had started to inject and offer you education such as information about equipment sharing, did they provide special services for you because you'd recently initiated injecting, what were they? Were there any barriers or enablers to your accessing harm reduction services?
- Prompts: Tell us about **how you have used harm reduction services since you started injecting**, how often you engage with harm reduction services and why, how has this changed over time, do you seek out services/attend the DIC or do you engage with the service through outreach, are there barriers/enablers to accessing these services, are there services you receive now that you wish you'd received earlier? Did the harm reduction service continue to support you after your first engagement, or as a new initiate to injecting drug use?
- Prompts: What harm reduction services are provided to **shooting gallery** attendees, are specific harm reduction services provided for new initiates in shooting galleries?

5. How can harm reduction services improve their services for people who newly initiate injecting drug use?

- Prompts: Did you **feel you were adequately supported** by your harm reduction service when you first started engaging with them after initiating injecting drug use?
- Prompts: Do you think there are **ways harm reduction services can improve** how they provide services to people who just started injecting, how services can identify people who have just started injecting?
- Prompts (if participant was reached via MdM hotline or case finding initiative): How did you find out about the hotline? How were you reached by the case finding initiative? Describe these services and how they may be improved.
- Prompts: Are there **additional services** that could be provided when first encountering new initiates? Are there additional services or practices harm reduction services could be providing over time for new initiates? If so, describe these services. Are there any services that are currently not provided that may be relevant?

- Prompts: How can harm reduction services for new initiates be adapted to shooting gallery contexts?
- Prompts: How can the experience of peer workers and longer-term people who inject drugs be utilised in supporting people who have recently initiated injecting drug use?

6. Is there any other information you would like to provide about when you initiated injecting drugs and your use of harm reduction services?

Qualitative interview guide for service providers

Qualitative interviews will occur in person, at a time/location mutually convenient for participants, and will focus on the contexts/characteristics of initiating injecting drug use, and availability/access of associated harm reduction interventions. The researcher will audio record the interview and take detailed notes. The data will be transcribed by the research team with support from a professional transcription service to ensure data security. Data will be analysed according to broad themes and the audio recordings will be securely destroyed following completion of transcriptions. Qualitative interviews will be assisted by (but not limited to) the following question guide:

1. To help us understand your experiences and perspectives, please describe your experience working in your sector.

- Prompts: Years in sector, various roles, qualifications.

2. Please describe your current role, the objectives and services offered at your MdM service, and your years of experience at the service you work for?

- Prompts: Position, tasks & responsibilities, time working with service, key populations (e.g. PWID, MSM, SWs) targeted by your service, services provided by your organisation (NSP, condom distribution, BBV testing, etc).

3. Can you tell us about your understanding of the contexts within which MdM clients commonly initiate injecting drug use?

- Prompts: Describe your understanding of how MdM clients are commonly introduced to injecting drug use, their reasons for initiating injecting drug use, how they learn to inject for the first time, people who might influence their decisions to begin injecting drugs?
- Prompts: Describe your understanding of the context in which MdM clients inject drugs for the first time, such as where they inject for the first time, help from others for their first injecting episode, their relationship to others who provide this help.
- Prompts: Discuss the relevance of shooting galleries in injecting drug use initiation. Do people commonly initiate injecting drug use in shooting galleries, how do shooting gallery 'professional injectors' support people to initiate injecting drug use?

4. Can you describe what you believe are some of the risks experienced by people initiating injecting drug use?

- Prompt: Describe the understanding of injecting risk among new initiates, and how this may change over time as they get more injecting experience, how do new initiates receive injecting risk information?

- Prompt: Describe your understanding of the drugs MdM clients most commonly inject first and their previous experience with these drugs prior to injecting them.
- Prompt: How is injecting risk among new injectors influenced by the type of injecting equipment they use, how they acquire this equipment, who they inject with and how this possibly influences the sharing of equipment, if new initiates are injected by another person and the risks associated with this practice.
- Prompts: Describe any risks among those potentially initiating injecting drug use within shooting galleries.

5. Describe the current practices and harm reduction services provided by MdM when encountering individuals who have recently initiated injecting drug use (i.e. within the 12 months prior to first client encounter).

- Prompts: Describe how MdM identifies new initiates to injecting drug use. What barriers and enablers do you believe currently exist for new initiates to injecting drug use in accessing harm reduction services in Kachin?
- Prompts: Describe the implementation of the hotline and case finding initiatives. Have these been effective in identifying new initiates? Have these been effective in linking new initiates with services?
- Prompts: When first encountering a recent initiate to injecting drug use, describe the harm reduction services provided by MdM. Do these services differ from those provided when first encountering a new client who may be experienced with injecting drug use (i.e. has been injecting drugs longer than 12 months prior to first encounter). If so, how does this practice differ?
- Prompts: How are MdM harm reduction services provided to shooting gallery attendees? Are there specific harm reduction services provided or practices for engaging with new initiates in shooting galleries?
- Prompts: Does MdM pay specific attention to following up with new initiates to determine injecting drug use risk and support harm reduction (including BBV testing)?

6. How can MdM improve their current harm reduction service provision for clients newly initiating injecting drug use?

- Prompts: How can MdM practices improve the identification and ongoing monitoring of individuals newly initiating injecting drug use?
- Prompts: What improvements could be made to the hotline and case finding initiatives?
- Prompts: How could MdM provide additional services or practices when first encountering new initiates and then over time? Any there any harm reduction services MdM doesn't currently provide to any clients that may be relevant?
- Prompts: How could MdM services for new initiates be better adapted to shooting gallery contexts?
- Prompts: What role do you think clients experienced with injecting drug use may have in providing harm reduction services for people newly initiating injecting drug use? Does MdM engage with longer-term people who inject to support harm reduction for new initiates?

- Prompts: What role do you think MdM peer workers may have in providing harm reduction services for people newly initiating injecting drug use?

7. Is there any other information you would like to provide about individuals newly initiating injecting drugs and their use of MdM harm reduction services?

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