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Optimal provision of opiate substitution therapy and needle and syringe programmes: a multi-method realist evaluation

Peter McCulloch, April Shaw, Gail Gilchrist, Catriona Matheson, Margaret Maxwell, Joanne Neale, Gareth Myring, Hugh McLeod, Matt Hickman, Peter Vickerman, Alison Munro and Steve MacGillivray

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Health Technology Assessment

Extended Research Article

Optimal provision of opiate substitution therapy and needle and syringe programmes: a multi-method realist evaluation

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Disclaimer: This report contains transcripts of interviews conducted in the course of the research and contains language which may offend some readers.

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This article

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Abstract

Background: The barriers and facilitators to engagement with Opiate Substitute Treatment and Needle and Syringe Provision need to be better understood to develop interventions to attract people into services.

Objective(s): We conducted a multi-method realist evaluation to generate an in-depth theory of the factors that influence the optimal provision of services in terms of access, engagement, retention and successful exit.

Design: Multi-method involving an online survey of United Kingdom drug and alcohol service commissioning leads and a meta-synthesis of qualitative literature (phase 1) to facilitate the development of an initial theory of optimal provision; and, in phase 2, a realist evaluation to test and refine the initial theory, involving in-depth interviews across three United Kingdom sites, with service commissioners, managers, staff and service users. We used routine treatment and staffing data to estimate the additional staff costs of implementing optimal service provision within one context of our refined theory.

Results: Findings indicated that optimal provision could be understood with reference to five main contexts [(1) agency and empowerment, (2) self-esteem and respect, (3) knowledge and communication, (4) goals, needs and preferences and (5) resources and demands]. The analysis suggested that optimal provision could be facilitated via specific mechanisms of action, operating at the 'Systems level' (policy, legislation and funding) and 'Service level' (delivery of services, service pathways, staff roles and responsibilities and organisational culture). Our analysis also identified the potential importance of independent 'mediating mechanisms' (e.g. confidence, trust and self-efficacy) which can operate to increase the likelihood of successful service outcomes. A costing analysis estimated the costs associated with a smaller caseload for shared care workers and the implementation of a salary increment scheme at one of the study sites.

Limitations: The survey sample size limited generalisability. There was a limited number of United Kingdom studies within the meta-synthesis. The findings of the realist evaluation highlight that provision was not optimised in the observed sites, limiting examples of best practice. However, the conceptual theory of optimal provision can direct future research to facilitate the development and implementation of optimal policy and practice.

Conclusions: We have provided a rich understanding of the contexts, mechanisms and actions by which optimal delivery of Opiate Substitute Treatment and Needle and Syringe Provision services may increase the likelihood of successful service provision. A multiagency approach applying various mechanisms within the various contexts of optimal provision may need to be implemented to optimise the provision.

Future work: Future research should focus on the development of a multiple-system toolkit or intervention to help drug services to implement optimal provision. More research is also needed to assess, the barriers and facilitators, that vulnerable underserved population and people from minority ethnic groups may face, and the mechanisms to improve provision for these populations.

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Report Supplementary Material 4	Participant information sheet
Report Supplementary Material 5	Informed consent

Supplementary material can be found on the NIHR Journals Library report page (https://doi.org/10.3310/HGDS4449).

Supplementary material has been provided by the authors to support the report and any files provided at submission will have been seen by peer reviewers, but not extensively reviewed. Any supplementary material provided at a later stage in the process may not have been peer reviewed.

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List of abbreviations

ADP	alcohol and drug partnership
ASSIA	Applied Social Science Index and Abstracts
BBV	blood-borne virus
BNI	British Nursing Index
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CMO	context, mechanism, outcome
DRNS	Drugs Research Network Scotland
FTE	full-time equivalent
GP	general practitioner
HAT	heroin-assisted treatment
HCV	hepatitis C virus
HIV	human immunodeficiency virus
IPT	initial programme theory
KPI	key performance indicator
LAIB	long-acting injectable buprenorphine
MAT	medication-assisted treatment
MDT	multidisciplinary team
MS	meta-synthesis
NSP	needle and syringe programme
OST	opiate substitute treatment
PPI	patient and public involvement
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
RE	realist evaluation
RPT	refined programme theory
SCW	shared care worker
SSCI	Social Sciences Citation Index
WHO	World Health Organization

Plain language summary

The aim of the study was to explore and understand how services providing opiate substitution therapy and/or needle and syringe programmes can be improved. Specifically, the aim was to improve the services to ensure as many people as possible can access and engage with these services, be retained in these services and successfully leave services having achieved any desired outcomes (e.g. drug-free or ongoing support to achieve employment). Phase 1 of our study involved summarising all of the existing literature of qualitative studies in this area and conducting an online survey seeking the views of service managers around the United Kingdom. The findings of these research methods contributed to an initial theory of optimal service provision. In phase 2, we then conducted an in-depth consultation with a wide range of service users and staff in three study sites in the United Kingdom (two in England; one in Scotland) to test and refine the initial theory. Findings from our review of qualitative studies identified problems and deficits with service delivery. The results of our online survey gave some insight into the way in which services are currently being delivered. Data from our in-depth qualitative consultation were helpful towards understanding about the facilitators to optimal service delivery. Our refined theory of optimal provision could be understood around improving service provision in the contexts of agency and empowerment; self-esteem and respect; knowledge and communication; goals, needs and preferences; and resources and demands. In our costing analysis, we estimated the additional staff costs in one study site of facilitating characteristics of optimal service provision.

Scientific summary

Background

Illicit drug use is an escalating problem in the UK, which now has one of the highest estimated populations of people who use drugs in Western Europe. Injecting drug use is associated with numerous health-related harms, including a high incidence of blood-borne virus infection, soft-tissue and skin infection, premature mortality from overdose, suicide and other causes of death. Two central elements of global, European and UK's harm reduction approach in relation to illicit drug use are opiate substitution therapy (OST) and needle and syringe programmes (NSPs). Engagement and retention in OST is a recognised problem globally. To prevent and reduce further harms, it is imperative that different models of service provision are better understood to attract and retain more service users in harm reduction services.

Objectives

The overall aim of the study was to generate a theory of optimal service provision with in-depth knowledge of the contextual factors and the mechanisms that influence access, engagement, retention and exit of OST/NSP services. We conducted a multi-method realist evaluation (RE) over two phases to meet four study objectives.

Phase 1

Objective 1: To conduct a *meta-synthesis* (MS) of qualitative studies using systematic review methods to identify the barriers and facilitators that impact on the use of OST and NSP services.

Objective 2: To conduct a UK-wide *online survey* of service commissioners to map current models of OST prescribing and practices to better understand current service provision/delivery.

Phase 2

Objective 3: To undertake a qualitative RE using a case study approach to establish the contexts and mechanisms that impact on the use of OST and NSP provision in the UK.

Objective 4: To estimate additional staff costs of implementing characteristics of 'optimal' OST provision identified by the qualitative RE in one study site.

Methods

Patient and public involvement took place throughout the study.

Meta-synthesis methods

We conducted a systematic review and MS of qualitative studies. A prior protocol was published: PROSPERO 2020 CRD42020209646; available from: www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020209646. A sensitive search strategy was developed and then run in multiple online research databases in January 2021: MEDLINE; Cumulative Index to Nursing and Allied Health Literature; British Nursing Index and Archive; Applied Social Science Index and Abstracts; Social Sciences Citation Index and PsycInfo® (American Psychological Association, Washington, DC, USA). In addition, the following grey literature sources were searched: OpenGrey and PsycEXTRA. Any primary or secondary qualitative studies conducted anywhere in the world that sought to understand the optimal provision of NSP and OST services from the perspectives of key stakeholders were included. Studies should have been seeking to understand issues regarding: Access, Engagement, Retention and Exits of OST and/or NSP. All included publications were subject to a global assessment of study quality. Drawing on methods proposed by Noblit and Hare, data synthesis was rigorous and multistaged.

Online survey methods

A cross-sectional online survey was sent to commissioners of OST and NSP services across the UK, including Northern Ireland. The survey was distributed in Spring 2021. A short survey instrument was developed to obtain information on which areas provide OST and NSP services, what the model of service provision is in relation to OST, how they are provided and additional questions about workforce composition and prescribing arrangements.

Realist evaluation methods

In-depth interviews were conducted with a range of key stakeholders. The target population were the following, sampled from three study sites (two in England and one in Scotland): (1) service users in contact with OST and/or NSP services; (2) service users out of contact with OST and/or NSP services; (3) core drug service managers; (4) core drug service staff; (5) non-core drug service staff and (6) Service commissioners. Study sites were selected purposively to reflect the diversity of models of OST and NSP provision, for example, to include sites that use various models of OST prescribing, including shared care with general practitioners, specialist medical models and pharmacy models. Individual interviews were aimed to be held with six key stakeholder groups (minimum total per study site n = 24): service users in regular contact (target = 8 per site); service users not in regular contact (target = 5 per site); core service managers (target = 3 per site); core service staff (target = 3 per site); non-core services staff (target = 3 per site) and service commissioners (target = 2 per site). All service users were interviewed face to face in a private consultation room at the core service. Some core service managers and staff and non-core drug service staff were also interviewed face to face in private consultation rooms within the core services. All other interviews were carried out by telephone or via Microsoft Teams (Microsoft Corporation, Redmond, WA, USA). The anonymity and confidentiality of participants were protected throughout. Framework analysis was used to analyse the interview data.

Costing analysis methods

A smaller caseload for shared care workers (SCWs) and the implementation of a salary increment scheme were identified by the RE as mechanisms to facilitate service optimisation. The target for an optimal SCW caseload of 50 per full-time equivalent (FTE) worker was specified by the service manager.

The caseload of SCWs in site A was estimated using anonymous event-level treatment data for both SCWs and service users within one of the English study sites was accessed from the local electronic service user records, which provide data for the National Drug Treatment Monitoring System. The treatment data covered 13 weeks from April to June in 2023, 2022 and 2019.

To assess the impact of differences in service user complexity on staff workload, univariable and multivariable linear regressions were performed using service user-level data, with total appointments booked as the dependant variable and substance use type, opiate use in the last 28 days and housing problem as covariates.

The event-level treatment data for SCWs were linked to data supplied by the service on the FTE and years of employment for each worker and any periods of work leave. The mean caseload per FTE in each period was estimated using appointments booked and measures of available staff capacity and full staff capacity. Staff turnover was also estimated. The number of additional FTE workers required for a caseload of 50 per FTE worker was estimated for each period. The salary-related cost of the additional FTE workers required for a caseload of 50 per FTE worker was estimated using a unit salary cost of a FTE worker on spinal point 15 of the 2023–4 National Joint Council for Local Government Services pay scale, and salary oncosts and overheads were estimated to be 35% of the salary cost.

The initial additional annual cost of introducing an illustrative salary increment scheme was calculated using data on the years of employment for each SCW and an estimated unit salary cost of a FTE worker and selected increment costs from the 2023–4 National Joint Council for Local Government Services pay scale.

Results

Meta-synthesis

From 63 included studies (53 OST-related and 10 NSP-related), it was noted that none included the views of commissioners of services; thus their views are absent. Twenty of the included studies (13 OST and 7 NSP) included a total of 449 (15%) staff participants, and 53 studies (45 OST and 8 NSP) included a total of 2518 (85%) service user participants. The views of staff, and to a much greater extent, service users, are therefore well represented in the MS. Studies were conducted across a wide range of countries (mainly North America), with nine being conducted in the UK (six OST/three NSP). The majority (n = 31) were published within the previous 5 years.

The barriers and facilitators identified in the MS significantly contribute to our understanding of four important 'contexts' within which services are delivered. Within these contexts, the barriers and facilitators that were identified contributed towards hypothesised mechanisms that could lead to optimal provision regarding successful access, engagement, retention and exit. This contributed significantly to the identification of an initial programme theory (IPT) of how services can ensure optimal service provision.

Online survey

Thirty-two respondents from 183 commissioning areas surveyed responded (response rate of 17%). Respondents were commissioners, service managers, public health specialists and specialist pharmacists. The COVID pandemic is likely to have had a negative impact, contributing to a very low response rate among already overstretched services, limiting the representativeness and generalisability of the findings. The findings from the survey were triangulated with the findings from the MS, which supported the identified IPT.

Realist evaluation

In-depth interview data were collected from 86 participants in 3 sites between April and September 2022: 29 participants were service users in regular contact with services; 15 were service users not in regular contact with services; 15 were core drug service staff; 12 were core drug service managers; 9 were non-core drug services staff and 6 were drug service commissioners.

Testing of the four contexts of the IPT, via in-depth interview data, indicated that there are examples of best practice and areas of weakness where contemporary service provision needs improvement. As a result, the initial theory was developed into a refined theory with five main contexts, representing the need for services to provide an adequate level of the following factors.

1. Agency and empowerment

This context indicates that optimal service delivery can be achieved and understood with reference to the following three mechanisms:

- Service users are empowered via a person-centred approach to make decisions regarding treatment.
- Services deliver tailored non-punitive, non-restrictive harm reduction approaches that make minimal demands of service users (low-threshold services).
- Service users have access to those involved in their care.

2. Self-esteem and respect

This context indicates that optimal service delivery can be achieved and understood with reference to the following two main mechanisms:

- Staff recognise the importance of confidentiality and a non-stigmatising approach.
- Service users are supported to develop strengths-based competencies, recovery capital and self-esteem.

3. Knowledge and communication

This context indicates that optimal service delivery can be achieved and understood with reference to the following three mechanisms:

- All stakeholders proactively encourage partnership working.
- A peer network programme is embedded into the core service.
- Staff have the knowledge and skills required to provide high-quality care.

4. Goals, needs and preferences

This context indicates that optimal service delivery can be achieved and understood with reference to the following four main mechanisms:

- Recording system(s) are fit for purpose to manage care plan reviewing effectively.
- A commitment to providing services that facilitate a shared ethos, understanding and responsibility between all key stakeholders.
- Access to a full range of services to meet treatment goals and wider needs.
- Appointments take account of service user needs and preferences, and staff are given time and resources to facilitate a proactive approach to meet these.

5. Resources and demands

This new context includes mechanisms related to understanding the multiple demands upon services and the required resources to satisfy those demands, and it indicates that optimal service delivery can be achieved and understood with reference to the following five main mechanisms:

- Understanding service demands to inform service delivery and design so that resources can be allocated appropriately.
- Staff are supported and resourced to overcome barriers to their ability to effect good treatment outcomes and to work effectively and efficiently in their demanding roles.
- Core services receive adequate, reliable and sustained resources to create the right circumstances for good recruitment and retention of staff.
- Funding of core drug services and wider drug service-related initiatives is sufficient, reliable and accessible.
- A range of key performance indicators are measured to direct effective service delivery, ensuring provision remains person-centred.

Our analysis of the data across all contexts also indicates that, within the hypothesised mechanisms, specific 'mechanisms of action' exist. Furthermore, we propose that these mechanisms of action can be understood as mechanisms operating at either of two levels: a 'Systems level' which relates to high-level strategic influence upon the delivery of services (e.g. policy decisions, legislation and funding); and a 'Service level' which relates to the delivery and organisation of services (e.g. service provision pathways; staff roles and responsibilities and organisational culture). Our analysis also identified the potential importance of 'mediating mechanisms' (e.g. confidence, trust and self-efficacy) which can operate to increase the likelihood of successful access, engagement, retention and exit.

Costing analysis

In our single case study site, the FTE staff capacity decreased between the 13-week periods in 2019 and 2022 and then increased in 2023. Long-term leave accounted for 5% (1.4/26.0) of the FTE capacity in 2023 and by taking long-term leave into account, the available FTE capacity increased by 8% (1.9/24.6) between 2019 and 2023. There was a high turnover in staff over time, with 60% (18/30) of available staff in 2023 having also worked in the service in 2022, and this experience compares to 58% (15/26) of available staff in 2022 having also worked in the service in 2019. The FTE staff with < 2 years employment in the service increased from 22% (5.3/23.7) in 2019 to 48% (11.7/24.6) in 2023.

The RE identified a smaller caseload for SCWs and the implementation of a salary increment scheme as key characteristics of the 'optimal' OST provision. The 24.6 FTE available staff working in 2023 had a mean caseload of 67.8

service users per FTE available staff compared to 82.9 in 2022 and 76.3 in 2019. Implementation of a mean caseload of 50 would require an increase in available staff capacity from 24.6 FTEs to 33.4 FTEs, associated with an additional annual staff cost of 32.5%, £328,798. If operating at full staff capacity (26.0 FTEs), then the increase in annual staffing cost would be 27.3%, £276,251. Having accounted for measures of service user complexity, the mean number of appointments booked per service user was lower in 2023 compared to 2019.

The introduction of an illustrative salary increment scheme to aid retention of staff with three annual increments would entail a 3.5% increase in annual staffing cost in 2023, representing £35,726, resulting in a combined cost of £311,977 for the estimated 33.4 FTEs, associated with a caseload of 50 service users per FTE.

Conclusions

We have provided a rich understanding of the contexts, mechanisms and actions by which the optimal delivery of OST and NSP services may be understood in order to increase the likelihood of successful access to, engagement with, retention in and exit from services. Services may wish to consider how well they are currently operating regarding the contexts and mechanisms we have identified and to determine where they may be deficient and then use the descriptions we have provided as a road map to make improvements in those areas.

Study registration

This study is registered as PROSPERO 2020 CRD42020209646.

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Chapter 1 Introduction

The problem

Drug use is an escalating problem in the UK, which now has one of the highest estimated population of people who use drugs in Western Europe.[1] Estimates of the number of people who are dependent on illegal supplies of opioids and/or inject drugs are being updated (due in 2024). Historically, they suggest that that there are approximately 181,700–210,480 drug users in England[2] and 23,937 drug users in Scotland.[3] People who use opioids are a diverse group and include those with multiple complex social and health problems[1] who experience a myriad of drug-related harms and increased risk of blood-borne viruses [BBVs such as human immunodeficiency virus (HIV) and hepatitis C virus (HCV)], bacterial soft-tissue infections, social and mental health problems, self-harm and premature mortality from overdose and multiple other causes of drug related death (DRDs).[4–10] Mortality rates internationally among people who use drugs are on average over 10 times higher than among the general population,[10] with fatal overdose[11] being an excess risk across all main causes of death.[12] Besides the human cost of drug misuse in the UK, the financial costs are vast: approximately £10.7 billion in England and approximately £0.5 billion are costs to the NHS.[1] The equivalent cost in Scotland and Wales are £3.5 billion.[13] However, it has also been estimated that every £1 spent on the treatment of drug misuse saves £2.50 on societal costs[14] and if crime reduction is included in cost-effectiveness interventions, then increasing opiate substitution therapy (OST) dominates no treatment or reduced levels of OST.[14–17] However, population benefits of OST in reducing drug-related deaths are associated with prolonged retention in OST.[18–20]

There is a need to understand how to ensure services are more effective in engaging and retaining service users to prevent harms, including further deaths.

Opiate substitution therapy and needle and syringe programmes

Two central elements of Global, European and UK's harm reduction approach in relation to DRD and BBV are OST (mainly methadone) and needle and syringe programmes (NSPs).[5] OST is considered to be an essential medicine by the World Health Organization (WHO) for treatment of opioid dependence[21] The provision of OST is supported by extensive clinical guidelines that list a number of drugs, including methadone and buprenorphine for the management of opiate withdrawals.[22] OST and high coverage NSP are associated with a 50% reduction in HIV and HCV transmission – and the combination reduces transmission by over 70%.[5,23,24] Modelling has shown also that OST and NSP are required to reduce DRD and HIV and minimise HCV reinfection.[25–27]

The OST can be prescribed by medical doctors, including general practitioners (GPs) and by pharmacists and nurse prescribers in the UK. Different areas of the country have adopted different prescribing models. NSP also varies across the UK and relies heavily on community pharmacies for this role. Other modes of distribution for NSP are via drug treatment services (fixed sites), mobile outlets, vending machines and peer distribution.[28] In Scotland, > 70% of injecting equipment provision transactions occur in community pharmacies.[29] UK guidelines for the provision of injecting equipment recommend that a variety of models of provision ought to be used.[30] However, guidelines on the provision of NSP also recommend that models of delivery are targeted to local needs, provide a mix of services taking into account groups, such as young people, and provide advice and information on harm reduction and on the availability of other services. The extent to which guidelines are followed and the potential impact of this on the optimal provision of OST/NSP in the UK are a current gap in knowledge and yet could prevent a myriad of harms, including DRDs.

There is strong global systematic review-level evidence, including studies from UK, that OST reduces mortality,[10,17,19,31] reducing HIV and HCV transmission.[5,23,24,28] The most recent analysis in Scotland shows that OST reduces drug-related mortality by 70% even in the context of risk of death experienced by people with opioid dependence and risking number of DRD in the population.[31] Historical reviews also emphasise that retention in OST is associated with optimising and increasing the dose.[32] Updated systematic reviews summarised in recent European Monitoring Centre for Drugs and Drug Addiction and European Centre for Disease Prevention and Control guidance confirm that there is good evidence that NSP reduces HIV and HCV.[33] Compared to many other countries, the coverage of OST and NSP is also high in UK.[34] Despite the strong and increasing evidence for the effectiveness of OST and NSP overall, other factors at societal, service and individual levels can impact on the overall engagement and utilisation of services and hence on the overall effectiveness in reducing harms for the whole population of people who use drugs. For example, at societal level, local law enforcement and policing practices have been found to impact on the service use alongside service user fear of arrest.[35,36] At service level, low-threshold service provision,[37] provision of combinations of NSP and ORT, provision of the right equipment (including low dead space syringes), optimal dosing in relation to OST,[38] provision of additional support, such as psychological interventions, and optimal coverage have also been found to impact on the use of these services and hence on their overall effectiveness.[18,20] Good coverage of OST may not be sufficient as illustrated in Scotland – where despite a sustained 70% reduction in DRD risk for people on OST compared to people not in OST – the risk of death experienced by people with opioid dependence still increased by twofold to threefold over the last 10 years, both for those in OST and out of OST, and was associated with an increase in the number of DRD in the population.[31]

Indeed, engagement and retention in OST are recognised problems globally, and yet both of these factors are associated with protection against drug-related mortality such that the entry and exit stages of engagement with OST present elevated risks of mortality among drug service users.[39] In order to prevent and reduce further deaths and harms, it is imperative that different models of service provision are better understood in order to inform future optimal care delivery which attracts and retains more service users in harm reduction services.

Rationale for the realist evaluation

This body of work aimed to generate in-depth knowledge of the contextual factors and the mechanisms that influence the use (and non-use) and the effectiveness (in terms of engaging and retaining service users) of OST/NSP services and to make recommendations for practice and future research.

It is imperative that the barriers and facilitators to better engagement and retention within different models of service provision are better understood in order to attract and retain more people in harm reduction services to prevent further deaths and harms.

While the UK has a relatively high coverage of NSP and OST, the changing patterns of injecting drugs use, coupled with the recent evidence of reduced engagement with OST/NSP among people who use drugs, present a major challenge to public health. Global evidence currently has little evidence on the intensity of harm reduction and outcomes.[5,40] However, UK research that focuses on the specific contexts of service delivery and utilisation, including the barriers and facilitators to service use and engagement, is scarce. A systematic review of qualitative research on service user views of safer environment interventions (that included needle and syringe exchange programmes) found only 29 research studies, none of which had been conducted in the UK.[41] As preparation for this study, our own preliminary search of key databases [Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsycInfo® (American Psychological Association, Washington, DC, USA), Applied Social Science Index and Abstracts (ASSIA) and MEDLINE], conducted in order to locate qualitative studies on OST/NSP specifically, located < 20 studies. Many of these were conducted prior to 2010; however, some did focus on contextual factors influencing service delivery. For example, a study of the contextual factors impacting on condition management as a method of reducing supervised use of injectable heroin found that client motivation, patient and staff involvement in the intervention, prior trust in the service, clarity of information of the intervention and consistency of service rules and regulations, among a range of other factors, were important influences on the client uptake and engagement.[41] A systematic review that examined the 'optimal' organisational and delivery factors for NSP services concluded that further research was warranted with the stated purpose of 'evaluating how different approaches to the organisation and delivery NSPs impact on effectiveness'.[42] More recently, a scoping review identified a lack of evidence about mobile NSP in particular and about what 'core and component' services they should offer[43] and another study noted the dearth of research on barriers to engaging in drug treatment with people who use drugs who are out of treatment.[44]

The OST/NSP have in general been found to be cost-effective and cost saving in some instances,[14–17,45,46] and so improving the effectiveness of these services has the potential to reduce the financial costs. A recent report by the

National Institute for Health and Care Excellence identified numerous gaps in knowledge regarding the effective use of NSP/OST services, including a lack of understanding of their use by younger people, new injectors and those out of contact with treatment.[13] However, we also know that other subpopulations of people who use drugs are at high risk and may not be engaging well with NSP and/or OST: people who are homeless and/or living in temporary accommodation,[47] women,[48,49] older and younger people, stimulant as well as opioid injectors[50] and those out of contact with treatment are all at elevated risk of BBV and other drug-related harms. Finally, the recent systematic review and meta-analysis we conducted on behalf of the National Institute for Health and Care Research identified a lack of knowledge of the contextual factors that impact on the implementation and engagement with service, which are likely to impact on their effectiveness.[28]

By conducting an in-depth realist evaluation (RE), it is possible to make some clear recommendations with direct implications for service delivery as well as recommendations to guide future high-quality primary research and the prioritisation of research needs.

Structure of the report

The overall aim and design for the body of work is described next in *Chapter 2*. This involves an overview of the phases of the study, the specific objectives and research questions for each and how they relate to each other. The methods and findings of phase 1a, the meta-synthesis (MS), are presented in *Chapter 3*. This is followed by a description of the methods and findings of phase 1b, the online survey, in *Chapter 4*. Thereafter, the specific methods and findings of phase 2, the realist synthesis, are presented in *Chapter 5*. The findings from all phases of the study are discussed in *Chapter 6* along with recommendations for policy, practice and research.

Chapter 2 Study plan, aims and research questions

We conducted a multi-method RE over two phases to meet four study objectives (*Figure 1*). Patient and public involvement (PPI) took place throughout the study (described further below in this chapter). We adhered to the reporting principles outlined in www.ramesesproject.org/.

Overall study aim

The overall aim of the study was to generate in-depth knowledge of the contextual factors and the mechanisms that influence the use (and non-use) and the effectiveness (in terms of engaging and retaining service users) of OST/NSP services.

Overall study design

Phases 1a and 1b were conducted to understand the contextual factors, barriers and facilitators that impact on the use of harm reduction services. It was anticipated that the findings from phase 1 would contribute towards the identification of an 'initial programme theory' (IPT). Programme theories describe how interventions (in this case OST and NSP services) lead to its effects/outcomes (in this case, successful access to, engagement with, retention in and exit from services). Phase 2 was conducted to test the identified programme theory within the delivery of services in the UK and explore what works well (or does not work well) and to refine the IPT into a programme theory of 'what works' as an optimal model for OST and NST in UK contexts.

Specific study objectives and research questions

Phase 1a

Objective 1: To conduct a *MS* of qualitative studies using systematic review methods to identify the contextual factors, barriers and facilitators that impact on the use and effectiveness (in terms of access, engagement, retention and successful exit) of models of OST and NSP services (phase 1a of study flow chart).

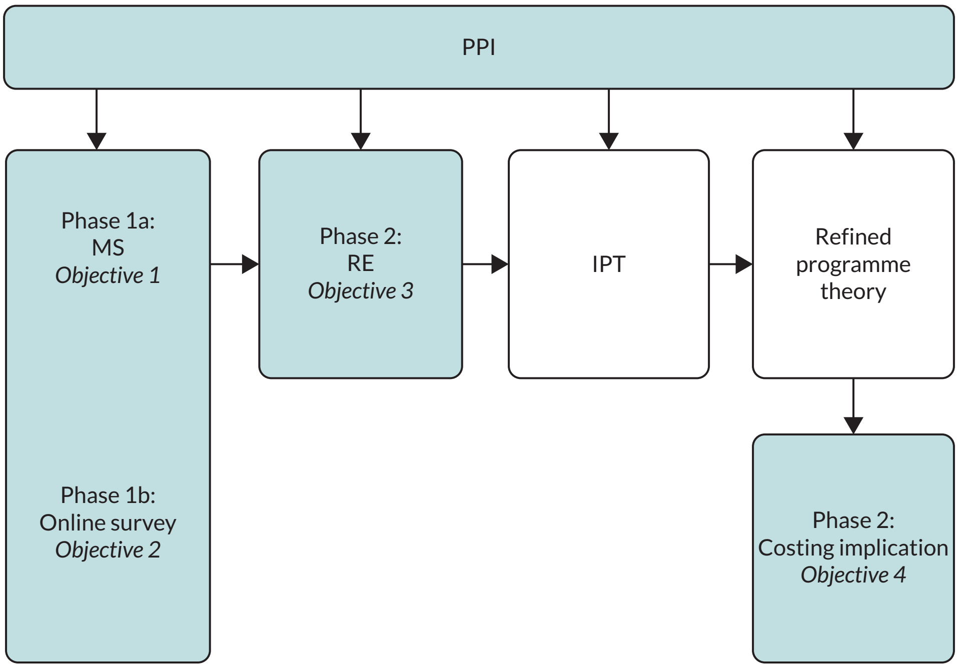


FIGURE 1 Outline of study phases.

Research questions:

1. What are the views and experiences of service users, service commissioners, managers and staff regarding the barriers/facilitators to providing and receiving OST and NSP services?
2. What are the views of what constitutes a successful (effective) short-, medium- and long-term outcomes from engagement with NSP/OST services?
3. What specific contextual factors impact on the effectiveness of NSP/OST service outcomes?

Phase 1b

Objective 2: To conduct a UK-wide *online survey* of service commissioners to map current models of OST prescribing and practices, including workforce composition and the models of NSP provision, to better understand current service provision/delivery (phase 1b of study flow chart).

Research questions:

1. What range of service models are available in local councils and health boards in the UK (e.g. shared care/NHS/third sector)?
2. What mix of prescribers exist in each commissioning area to facilitate OST prescribing (e.g. medical, pharmacist and nurse prescribers)?
3. What mix of services exist in each commissioning area to provide NSP services and to which key groups are they delivered?
4. What NSP and OST services exist, if any, that target the key subpopulations in this study: older/younger service users, women, homeless people, stimulant as well as opioid injectors and those out of contact with services?
5. What are the local and national gaps in service provision?

Phase 2

Objective 3: To undertake a qualitative RE using a case study approach to establish the contexts and mechanisms that impact on the use and non-use and the effectiveness of models of OST and NSP provision in the UK (phase 2a of the study flow chart).

Research questions:

1. To what extent are NSP and OST services delivered as intended and in relation to local guidelines? (Document review and staff and service user interviews.)
2. What barriers/facilitators to optimal NSP and/or OST service provision are experienced by service providers (commissioners, service managers and front-line staff), including in relation to access, engagement, retention and service exits and desired outcomes?
3. What barriers/facilitators to optimal NSP and/or OST service provision are identified by people who use drugs , both in treatment and out of contact with treatment, including those in the high-risk groups mentioned, including for access, engagement, retention and service exits and desired outcomes?
4. When service users engage with NSP and/or OST services, how are they referred in, what additional support and services do they receive and are referral pathways to and from other services timely and apt?
5. What does optimum/effective service use and effective outcomes mean to service providers and to service users and how might it be achieved?
6. What are the contextual factors and mechanisms of change that may explain the (sub)optimal use and effectiveness of NSP and/or OST services for service users?
7. What are the key characteristics of service users who use NSP and/or OST services, and which groups are under-represented and why?
8. What are the costs of delivering different NSP and/or OST service models and how might they be optimised for the different groups of service users who both regularly engage with and those who do not engage with services?

Objective 4: Estimate costs of 'optimal' provision and compare to existing services.

Research question:

1. How does the cost of 'optimal' models of provision compare to those of existing provision in the case study areas?

Relationship between the multi-method components of the study

While each of components of the study had their own specific stand-alone objectives and research questions, the findings of the components of phase 1 were used to inform the subsequent conduct of the RE conducted in phase 2.

Realist evaluation typically begins by developing IPT, which in RE is a set of plausible and testable assumptions about how a programme works. The IPT considers the underlying processes and assumptions that shape how a programme is implemented and how it produces its effects. This is organised in terms of contexts, mechanisms and outcomes. An IPT can be generated from different (and combined) data sources, for example: existing evidence of interventions and what works and barriers/facilitators; existing documentation on programmes or policies tackling the problem and qualitative data (conversations, interviews and focus groups) from those with knowledge of a programme or policy. A RE then goes on to test and refine the IPT towards the development of a refined programme theory (RPT) (*Figure 2*).

Method of development of initial programme theory

An IPT is first identified and developed by generating hypotheses about the potential interactions between context (C), mechanisms (M) and outcomes (O) that explain how, for, whom and in what ways a programme can deliver an optimal service (*Figure 3*). We initially developed an IPT from two data sources: the MS conducted in phase 1a of the study; the online survey conducted in phase 1b of the study. We also performed a documentary analysis by consulting relevant key national policy documents. From these sources, we created a first draft of CMO configurations. Following this, we conducted two focus groups involving a total of nine people with lived and living experience. The focus groups involved facilitated discussion of the first draft of the CMOs, which were subsequently modified to include their views. We then conducted a key stakeholder expert discussion group, comprising members of the study team, the Study Advisory (oversight) Committee and a Drugs Research Group in England. This involved facilitated online Microsoft Teams

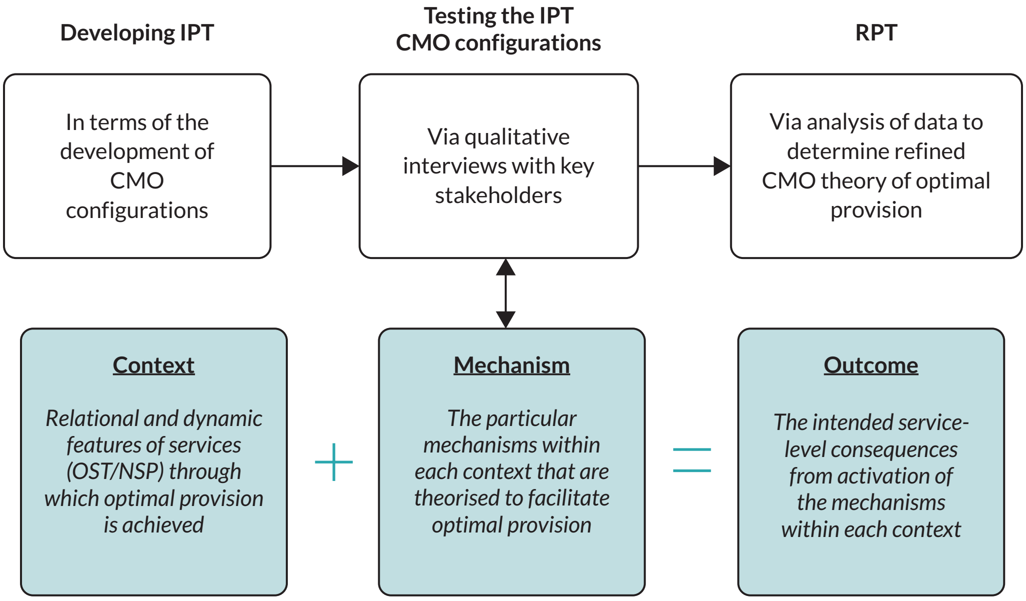


FIGURE 2 Methods of RE.

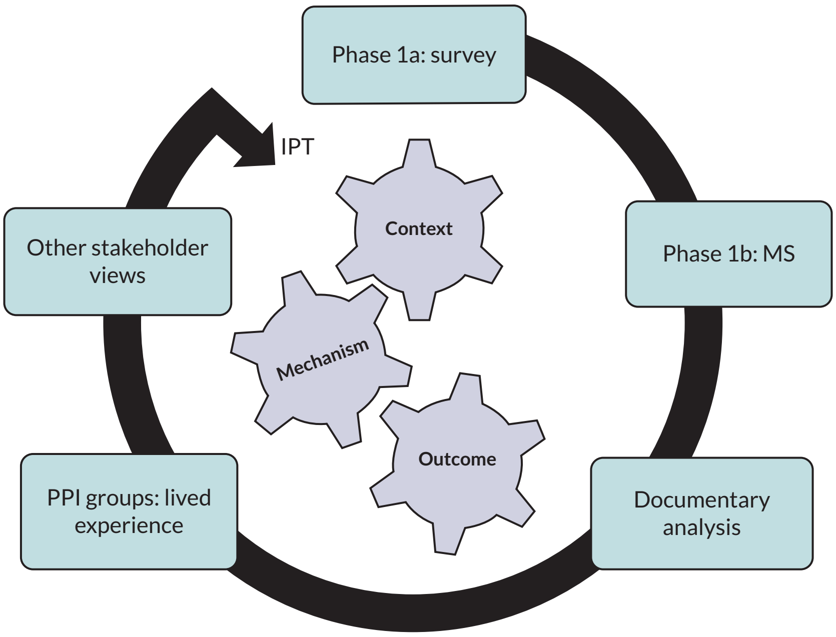


FIGURE 3 Method of development of IPT.

(Microsoft Corporation, Redmond, WA, USA) discussions, following presentation of the drafted IPT. Members of the study team took notes regarding main discussion points and redrafted the IPT based on feedback and commentary.

The hypothesised IPT was then tested via an in-depth qualitative study in phase 2a of the study before finally being developed and described as a RPT. Phase 2b which involved an analysis of some of the cost implications resulting from the RPT then took place. The methods and findings of each of these study components are described in detail in following chapters.

Patient and public involvement involvement in study development

People with lived and living involvement of using NSP and OST services were involved in the development of the research protocol. We consulted 11 members of a recovery community in central Scotland. Participants recognised the need for the research, citing significant variance in quality across services and within staff teams. They highlighted the need for NSP services to treat clients with dignity and respect to assess their drug use and discuss their information and injecting equipment needs. Confidentiality was viewed as a concern for people who use drugs , especially where people on OST were also accessing clean injecting equipment. Participants noted that many treatment services refer to delivering ‘patient-centred care’ but often fall short of this aspiration. They noted that reasons for, and patterns of, drug use are highly individual and that treatment should therefore reflect this. There was a desire to be involved in developing their own care plans with the whole treatment team to have copies of these for use across services and to be involved in the regular review of these. They also noted the need for treatment services to ask people ‘how do you want recovery’ and to consider their wider health and social care histories and needs. They specifically suggested that we ask if the study participants felt that their concerns were heard in their services. The needs of service staff to be respected and supported by their employers were also considered important, as these can affect the quality of service provision. Relationships are very important, and service users recognised that overworked staff are unlikely to be able to meet their needs. They recognised that care is increasingly fragmented across statutory and third-sector providers and that these services can be overly focused on narrow contractual outcomes. This further emphasised the need for individualised care plans, developed with service users, that they can take between services to ensure synergy across organisational boundaries. Finally, the people consulted stressed the need for low-threshold services for people who want help with a specific substance or problem but are not ready to become abstinent.

People with living and lived experience of injecting drugs were also involved in the conduct and delivery of the proposed study. Two of our key partners in this study are well-established service user groups initiated by co-applicant JN in London and the Drugs Research Network Scotland (DRNS). The latter are centrally involved in PPI work with service users in Scotland. Through these partners, we recruited three people with living/lived experience (described as 'experts through experience') as part of our research team. We consulted with members of our PPI involvement group on producing project documentation, such as consent forms and participant information sheets, for the people who inject drugs as well as the staff who took part in our interviews.

Patient and public involvement development of interview schedules for the realist evaluation

Participants accessed via DRNS consulted with interview schedules. We created an initial draft of interview schedules for all key stakeholder interviews. We then consulted with PPI groups regarding the interview schedules for service users and schedules for those out of service. Participants were accessed via DRNS and were provided with the initial schedules and were asked to provide feedback via e-mail or directly with DRNS staff, if they thought modifications to the schedules were required; however, no modifications were required.

Patient and public involvement involvement in context, mechanism, outcome development

From our work in stage 1, we had developed a basic IPT about what may influence the 'success' of how service users engage with NSP and with OST. Given that stage 2 of the study aimed to test and refine this IPT and to understand what works well in services, for who and why, we undertook PPI consultation. This activity took place after having conducted the MS, online survey and a policy document analysis and before seeking other stakeholder views. We ran two group discussions online via Microsoft Teams and were facilitated by study team members and a member of staff from the DRNS. PPI participants were accessed via DRNS. PPI group 1 consisted of four female service users currently receiving OST prescription, and PPI group 2 consisted of three female and two male service users.

There was full agreement from all participants regarding the CMOs identified after the MS. However, significant modifications and additions subsequently took place. The results and implications of this are discussed in *Chapter 5* reporting the methods and findings of the RE.

Chapter 3 Methods and findings of the meta-synthesis

Methods

We conducted a systematic review and MS of qualitative studies, which is reported here in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.[51] A prior protocol was published: PROSPERO 2020 CRD42020209646, available from: www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020209646

Search strategy

Searches of the following databases were carried out in January 2021: MEDLINE; CINAHL; British Nursing Index (BNI) and Archive; ASSIA; Social Sciences Citation Index (SSCI) and PsycInfo. In addition, the following grey literature sources were searched: OpenGrey and PsycEXTRA.

A sensitive search strategy, consisting of terms pertinent to OST and NSP and qualitative research, was developed and then run in the above databases (see *Appendix 1* for an example search string). We mapped terms to existing subject headings in each database and used keyword searching with and without truncation. Where possible, the medical subject heading explode function was used. To maximise identification of research not included in the databases listed above, reference lists of relevant articles were also checked for potentially suitable publications.

Screening process

Two reviewers independently screened all titles and abstracts following the pre-specified inclusion and exclusion criteria (see below). Publications were identified as: those that met inclusion criteria (and were thus retained); those that could not be determined without further scrutiny whether or not they met inclusion criteria (and were thus also retained); and those that clearly did not meet inclusion criteria (and were thus excluded). The full texts of all retained publications were then retrieved and were subject to further scrutiny. All reports found from the screening process were downloaded into a reference management system {EndNote 9 [Clarivate Analytics (formerly Thomson Reuters), Philadelphia, PA, USA]}. Any full texts that were subsequently excluded were listed and a reason for their exclusion was provided. A PRISMA flow diagram[51] was used to record the numbers of publications at each stage of the screening process.

Inclusion criteria

Any primary or secondary qualitative studies conducted anywhere in the world, which sought to understand the optimal provision of NSP and OST services from the perspectives of key stakeholders were included. Studies should have been seeking to understand issues regarding any, or all, of the following: access, engagement, retention and exits of OST and/or NSP. Studies must have predominately focused on any or all of the following: service users over the age of 16 who have used community OST and/or NSP services provided either currently or in the past; service staff who provide OST and/or NSP services and those who commission OST and NSP services. Results were limited to those published in the English language and published in the period from 2000 to search date.

Exclusion criteria

Any studies that focused on the criminal justice system were excluded as this was beyond the scope of this review. No other exclusion criteria were applied.

Data extraction process

All included studies were subjected to data extraction using a bespoke data extraction form in Microsoft Excel® (Microsoft Corporation, Redmond, WA, USA). The forms were completed by one reviewer and were checked by a second. Any disagreements were discussed with a third reviewer where necessary. Data were extracted regarding key study characteristics, methods and main themes and findings. All studies were uploaded in full to NVivo (QSR International, Warrington, UK) [Lumivero. *NVivo* (Version 13, 2020 R1). 2020. URL: www.lumivero.com (accessed 10 December 2024)] for a detailed analysis.

Quality assessment

All included publications were subject to a global assessment of study quality, drawing upon the Critical Appraisal Skills Programme[52] and COnsolidated criteria for REporting Qualitative research[53] criteria: triangulation of data, theoretical sampling, rigour, reflexivity, credibility, relevance, clear exposition of ethical issues and methods of data collection and analysis. Studies were considered either 'possibly strong' or 'probably weak', depending upon how well they appeared to employ these methods. The nature and 'typology' of the qualitative evidence was also assessed and reported in line with the method described by Sandelowski and Barroso.[54] This involved assessing and classifying the included studies on a continuum of data transformation as: no finding, topical survey, thematic survey, conceptual/thematic description or interpretive explanation.

Data synthesis

Drawing on methods proposed by Noblit and Hare,[55] data synthesis was rigorous and multistaged. Stage 1: collation of all first-order constructs (participants' quotes) and second-order constructs (author interpretations/themes). Stage 2: clustering similar concepts and translating any original concepts into reciprocating concepts from other studies. Stage 3: derivation of a set of preliminary themes (third-order constructs) stemming from the data. Stage 4: establishment of the validity and sufficiency of third-order constructs (first-order constructs were translated independently to create an inductive set of themes, and then these were mapped onto the third-order constructs; and second-order constructs were mapped onto third-order constructs). Stage 5: refinement and synthesis of third-order constructs and providing specific answers to the review questions. We also produced a conceptual explanatory model at this stage. While designed to answer the specific review questions, the findings from the MS also informed the development of an IPT to understand the contexts and mechanisms by which OST and NSP services may optimally deliver the outcomes of successful access to, engagement with, retention in and successful exit from these services.[55]

Results of the meta-synthesis

From the searches of the databases, 2358 publications were identified. After 156 duplicates were removed, the titles and abstracts of 2202 records were screened against the eligibility criteria. Following screening, 67 publications were retrieved for full-text review. Following scrutiny of the full texts, 55 publications were included (see *Figure 4* for PRISMA diagram and *Appendix 2*, *Table 8* for a list of excluded publications with reasons for exclusion).

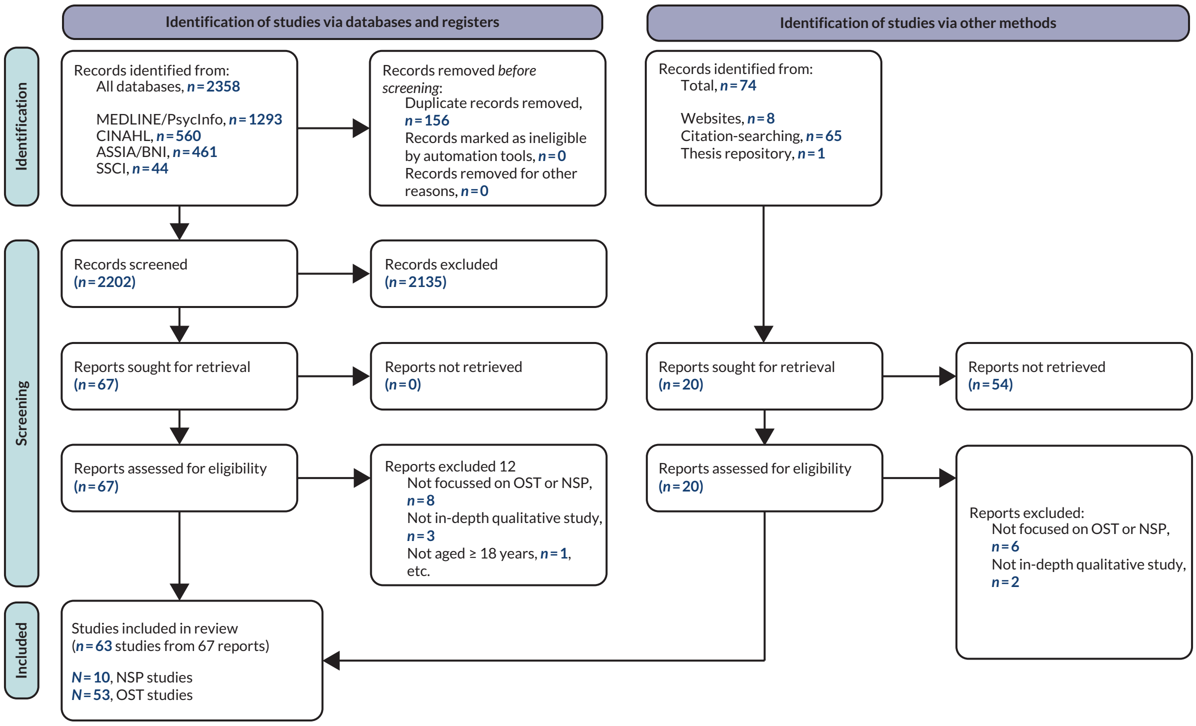


FIGURE 4 The PRISMA 2020 flow diagram for new systematic reviews which include searches of databases, registers and other sources.

A further 74 publications were identified from searching other sources (websites, citation searching and thesis repositories). Subsequently, 20 of these were deemed suitable for further review against the eligibility criteria of which 8 were excluded (see *Appendix 2*, *Table 8*).

Thus, as per the combined searching of databases and other sources, there were 67 publications related to 63 unique studies to be included in the MS. Of the 63 included studies, 53 studies focused on OST and 10 studies focused on NSP. No studies included a focus on both OST and NSP. See *Tables 1* and *2* for the characteristics and quality assessment of all included studies from the MS.

From the 63 included studies, it was noted that none included the views of commissioners of services; thus their views are absent. As it was often difficult to identify whether study participants were staff or staff managers, we conflated these categories under the general heading of ‘staff’. Twenty of the included studies (13 OST and 7 NSP) included a total of 449 (15%) staff participants, and 53 studies (45 OST and 8 NSP) included a total of 2518 (85%) service user participants. The views of staff, and to a much greater extent, service users are therefore well represented in this MS.

Description of Opiate Substitute Treatment studies

Of the 53 studies of OST (see *Table 1* for characteristics of included OST studies), the majority were conducted in North America (16 in the USA and 10 in Canada). The remainder included studies conducted in Australia (six studies), UK (five studies) and the Republic of Ireland (four studies). One study took place in both Northern Ireland and the Republic of Ireland. One study took place in three countries (Indonesia/Ukraine/Vietnam). Of the remaining studies, two were conducted in the Ukraine and one each in China, Iran, New Zealand, Norway, South Africa, Sweden, Thailand and Vietnam. The studies were conducted during 2004–20. The majority ($n = 31$) were published in the last 5 years, with few ($n = 5$) having been published > 10 years ago. The majority of studies ($n = 40$) employed interviews as their method of data collection. A further six studies employed both interviews and focus groups, and seven studies used focus groups alone. With regard to the global assessment of study quality, 15 were judged to be ‘possibly strong’ with regard to their methods, with the remaining 38 being judged as ‘probably weak’. Typology of transformation of findings varied across the continuum: 1 study was a topical survey; 9 studies were on the borderline between topical survey and thematic survey; 26 studies were thematic surveys; 6 studies were on the borderline between thematic survey and conceptual/thematic description; 8 studies were conceptual/thematic description; 1 study was on the borderline between conceptual/thematic description and interpretive explanation and 1 study was an interpretive explanation.

Description of needle and syringe programme studies

Three of the 10 studies on NSP were conducted in the UK, with 1 each of the remainder in Ireland, Sweden, Canada, USA, Australia, Kyrgz Republic and China (see *Table 2* for characteristics of included studies). Publications dates ranged from 2002 to 2020, with few published > 10 years ago ($n = 2$) and the majority ($n = 8$) published within the last 7 years. All NSP studies employed interviews as their method of data collection, with two also incorporating observation. The most common methods of analysis were Thematic Analysis ($n = 7$), with the remaining studies utilising Framework Analysis ($n = 2$) and Content Analysis ($n = 1$). In terms of the global assessment of study quality, four were judged to be ‘possibly strong’, with the remaining six assessed as ‘probably weak’. Typology of transformation of findings varied across the continuum, with the majority categorised as a thematic survey ($n = 7$), one on the borderline between thematic survey and conceptual thematic description and two studies were a conceptual thematic description.

Results of data synthesis

Data from both OST and NSP studies were mainly focused on barriers to optimal service delivery, and rest were focused mainly on service user experience and views, albeit with some data from staff. Our analysis of the data indicates that factors influencing access, engagement, retention and exit of OST and NSP services can be understood with reference to four key overarching themes:

1. **Power and control**: Views and experiences of controlling and restrictive services. Data can be conceptualised within three subthemes: (1) restriction and inflexibility, (2) lack of autonomy and (3) service user fears.
2. **Stigma**: Views and experiences of service user stigmatisation and alienation. Data can be conceptualised within four subthemes: (1) monitoring and surveillance, (2) trust and identity, (3) service transactions and (4) anonymity and confidentiality.

TABLE 1 Characteristics and quality assessment of included OST studies from MS

		Characteristics					Quality assessment	
Included OST studies	**Study ID**	**Year of publication**	**Study participants**	**Data collection method**	**Analysis method**	**Country**	**Global assessment**	**Level of data transformation**
Andraka-Christou B, Capone MJ. 2018	1	2018	Physicians	Interviews	Thematic analysis	USA	Probably weak	Thematic survey
Anstice S, Strike CJ, Brands B. 2009	2	2009	Service users	Interviews	Thematic analysis	Canada	Probably weak	Thematic survey
Bishop B, Gilmour J, Deering D. 2019	4	2019	Service users	Interviews	Thematic analysis	New Zealand	Probably weak	Conceptual thematic description
Bojko MJ, Mazhnaya A, Makarenko I, Marcus R, Dvoriak S, Islam Z, Altice FL. 2015 Secondary publications: Bojko MJ, Mazhnaya A, Marcus R, Makarenko J, Islam Z, Filippovych S, Dvoriak S, Altice F. 2016 Mazhnaya A, Bojko MJ, Marcus R, Filippovych S, Islam Z, Dvoriak S, Altice FL. 2016	5	2015	Service users	Focus groups	Grounded theory	Ukraine	Probably weak	Thematic survey
Claffey C, Crowley D, Maclachlan M, van Hout MC. 2017	6	2017	Service users	Interviews	Phenomenology (descriptive)	Ireland	Probably weak	Thematic survey
Damon W, Small W, Anderson S, Maher L, Wood E, Kerr T, Mcneil R. 2017	7	2017	Service users	Interviews	Framework analysis	Canada	Probably weak	Conceptual thematic description
Fonseca J, Chang A, Chang F. 2018	9	2018	Pharmacists	Interviews	Thematic analysis	Canada	Possibly strong	Thematic survey
Gelpi-Acosta C. 2014	10	2014	Service users	Interviews	Grounded theory	USA	Probably weak	Conceptual thematic description
Giang V, Thulien M, Mcneil R, Sedgemore K, Anderson H, Fast D. 2020	11	2020	Service users (under 30)/ youth-focused caregivers	Interviews	Ethnographic thematic analysis	Canada	Possibly strong	Conceptual thematic description
Godersky ME, Saxon AJ, Merrill JO, Samet JH, Simoni JM, Tsui JI. 2019	12	2019	Service users/ staff and physicians	Interviews/ focus groups	Thematic analysis	USA	Probably weak	Thematic survey

TABLE 1 Characteristics and quality assessment of included OST studies from MS (*continued*)

		Characteristics					Quality assessment	
Included OST studies	**Study ID**	**Year of publication**	**Study participants**	**Data collection method**	**Analysis method**	**Country**	**Global assessment**	**Level of data transformation**
Gronnestad TE, Sagvaag H. 2016	13	2016	Service users	Interviews/ field notes	Interpretive phenomenology	Norway	Possibly strong	Thematic survey/ conceptual thematic description
Harlow W, Happell B, Browne G. 2014	14	2014	Healthcare professionals (nurses, medical, psychology)	Interviews	Grounded theory	Australia	Possibly strong	Interpretive explanation
Harris J, Mcelrath K. 2012	15	2012	Service users	Interviews	Thematic analysis	Northern Ireland/ Ireland	Possibly strong	Interpretive explanation
Hayashi K, Ti L, Ayutthaya PPN, Suwannawong P, Kaplan K, Small W, Kerr T. 2017	16	2017	Service users	Interviews	Framework analysis	Thailand	Probably weak	Thematic survey
Hewell VM, Vasquez AR, Rivkin ID. 2017	17	2017	Service users	Interviews/ focus groups	Grounded theory	USA	Possibly strong	Conceptual thematic description
James L, Clark D. 2005	18	2005	Service users	Interviews	Grounded theory	UK	Probably weak	Thematic survey
Jeske CP, O'byrne P. 2019	19	2019	Service users	Interviews	Thematic analysis	Canada	Probably weak	Topical survey
Khazaee-Pool M, Moeeni M, Ponnet K, Fallahi A, Jahangiri L, Pashaei T. 2018	20	2018	Service users	Interviews	Content analysis	Islamic Republic of Iran	Probably weak	Thematic survey
King A. 2011	21	2011	Service users, staff	Interviews	Content analysis	Ireland	Probably weak	Topical survey/ thematic survey
Kiriazova T, Go VF, Hershow RB, Hamilton EL, Sarasvita R, Bui Q, *et al.* 2020	22	2020	Service users with HIV	Interviews	Form of framework analysis	Indonesia, Ukraine, Vietnam	Probably weak	Topical survey/ thematic survey
Lin C, Wu Z, Detels R. 2011	23	2011	Service users	Interviews	Grounded theory	China	Probably weak	Topical survey/ thematic survey
Longman C, Temple-Smith M, Gilchrist G, Lintzeris N. 2012	24	2012	GPs	Interviews	Used axial coding	Australia	Probably weak	Topical survey/ thematic survey

continued

TABLE 1 Characteristics and quality assessment of included OST studies from MS (*continued*)

		Characteristics					Quality assessment	
Included OST studies	**Study ID**	**Year of publication**	**Study participants**	**Data collection method**	**Analysis method**	**Country**	**Global assessment**	**Level of data transformation**
Marks M, Scheibe A, Shelly S. 2020	25	2020	Service users	Interviews/focus groups	Form of framework analysis	South Africa	Possibly strong	Thematic survey/conceptual thematic description
Mattocks KM, Clark R, Weinreb L. 2017	26	2017	Service users (pregnant women)	Oral histories and ethnographic observations	Grounded theory	USA	Probably weak	Topical survey/thematic survey
Mcneil R, Kerr T, Anderson S, Maher L, Keewatin C, Milloy MJ, *et al*. 2015	27	2015	Service users	Focus groups	Form of thematic analysis	Canada	Possibly strong	Conceptual thematic description
Mitchell SG, Monico LB, Lertch E, Kelly SM, Gryczynski J, Jaffe JH, *et al*. 2018	29	2018	Service users	Interviews	Thematic analysis	USA	Probably weak	Topical survey/thematic survey
Mitchell SG, Morioka R, Reisinger HS, Peterson JA, Kelly SM, Agar M, *et al*. 2011	30	2011	Counselling staff	Interviews	Grounded theory	USA	Probably weak	Thematic survey
Muthulingam D, Bia J, Madden LM, Farnum SO, Barry DT, Altice FL. 2019	31	2019	Service users	Interviews	Nominal group technique (thematic rank ordering)	USA	Probably weak	Topical survey/thematic survey
Neale J, Tompkins CNE, Mcdonald R, Strang J. 2018	32	2018	Service users	Focus groups	Iterative categorization	UK	Possibly strong	Conceptual thematic description
Neale J, Tompkins CNE, Strang J. 2019	33	2019	Service users	Focus groups	Form of framework analysis	UK	Possibly strong	Thematic survey/conceptual thematic description
Nguyen TT, Luong AN, Nham TT, Chauvin C, Feelemyer J, Nagot N, *et al*. 2019	34	2019	Service users	Interviews	Thematic analysis	Vietnam	Probably weak	Thematic survey
Notley C, Holland R, Maskrey V, Nagar J, Kouimtsidis C. 2014	35	2014	Service users	Interviews/focus groups	Grounded theory	UK	Possibly strong	Thematic survey
O'byrne P, Pearson JC. 2019 Secondary Publication: Pearson. 2015	36	2019	Service users	Interviews/focus groups	Thematic analysis	Canada	Probably weak	Thematic survey/conceptual thematic description

TABLE 1 Characteristics and quality assessment of included OST studies from MS (*continued*)

		Characteristics					Quality assessment	
Included OST studies	**Study ID**	**Year of publication**	**Study participants**	**Data collection method**	**Analysis method**	**Country**	**Global assessment**	**Level of data transformation**
Peterson JA, Schwartz RP, Mitchell SG, Reisinger HS, Kelly SM, O'grady KE, *et al*. 2010	37	2010	Service users	Interviews	Grounded theory	USA	Probably weak	Thematic survey
Radley A, Melville K, Easton P, Williams B, Dillon JF. 2017	39	2017	Service users	Interviews	Thematic analysis	UK	Possibly strong	Thematic survey
Rawson RA, Rieckmann T, Cousins S, Mccann M, Pearce R. 2019	40	2019	Service users	Focus groups	Thematic analysis (informal)	USA	Probably weak	Thematic survey
Reisinger HS, Schwartz RP, Mitchell SG, Peterson JA, Kelly SM, O'grady KE, *et al*. 2009	41	2009	Service users	Interviews	Grounded theory	USA	Possibly strong	Thematic survey
Richert T, Johnson B. 2015	43	2015	Service users	Interviews	Textual analysis (form of thematic analysis)	Sweden	Probably weak	Thematic survey
Rozanova J, Marcus R, Taxman FS, Bojko MJ, Madden L, Farnum SO, *et al*. 2017	44	2017	Service users	Interviews	Grounded theory	Ukraine	Possibly strong	Thematic survey/ conceptual thematic description
Sanders JJ, Roose RJ, Lubrano MC, Lucan SC. 2013	45	2013	Service users	Focus groups	Continuous, flexible, iterative process.	USA	Probably weak	Conceptual thematic description
Scarborough J, Eliott J, Braunack-Mayer A. 2011	46	2011	GPs	Interviews	Thematic analysis	Australia	Probably weak	Topical survey/ thematic survey
Scorsone KL, Haozous EA, Hayes L, Cox KJ. 2020	63	2020	Service users	Interviews	Qualitative descriptive approach	USA	Possibly strong	Conceptual thematic description/interpretive explanation
Shepherd A, Perrella B, Hattingh HL. 2014	47	2014	Service users/ stakeholders (e.g. support workers/ managers)	Interviews	General inductive approach	Australia	Probably weak	Thematic survey

continued

TABLE 1 Characteristics and quality assessment of included OST studies from MS (*continued*)

		Characteristics					**Quality assessment**	
Included OST studies	**Study ID**	**Year of publication**	**Study participants**	**Data collection method**	**Analysis method**	**Country**	**Global assessment**	**Level of data transformation**
Strike C, Rufo C. 2010	48	2010	Service users/ staff	Interviews/ focus groups	Grounded theory	Canada	Probably weak	Topical survey/ thematic survey
Strike C, Millson M, Hopkins S, Smith C. 2013	50	2013	Service users/ staff	Interviews	'Iterative analytic procedure'	Canada	Probably weak	Thematic survey/ conceptual thematic description
Tofighi B, Williams AR, Chemi C, Suhail-Sindhu S, Dickson V, Lee JD. 2019	52	2019	Service users (inpatients)	Interviews	Grounded theory	USA	Probably weak	Thematic survey
Van Hout MC, Bingham T. 2014	54	2014	Doctors	Interviews	Thematic analysis	Ireland	Probably weak	Thematic survey
Van Hout MC, Crowley D, Mcbride A, Delargy I. 2018	55	2018	Experts/ stakeholders	Interviews	Content analysis	Ireland	Probably weak	Thematic survey
Vigilant L. 2004	57	2004	Service users	Focus groups	Grounded theory	USA	Probably weak	Thematic survey
Vishwanath TP, Cash P, Cant R, Mummery J, Penney W. 2019	58	2019	Service users	Interviews	Interpretative phenom-enological approach	Australia	Probably weak	Thematic survey
Woo J, Bhalerao A, Bawor M, Bhatt M, Dennis B, Mouravska N, *et al*. 2017	59	2017	Service users	Interviews	Thematic analysis	Canada	Probably weak	Thematic survey
Wood P, Opie C, Tucci J, Franklin R, Anderson K. 2019	60	2019	Service users	Interviews	Thematic analysis	Australia	Probably weak	Thematic survey
Yarborough BJH, Stumbo SP, Mccarty D, Mertens J, Weisner C, Green CA. 2016	61	2016	Service users	Interviews	Grounded theory	USA	Probably weak	Thematic survey

TABLE 2 Characteristics and quality assessment of included NSP studies from MS

		Characteristics					Quality assessment	
Included NSP studies	Study ID	Year of publication	Study participants	Data collection method	Analysis method	Country	Global assessment	Level of data transformation
Bates G, Pendlebury M, Cochrane M, Mackridge A. 2015	3	2015	Service users/ NSP staff	Interviews	Thematic analysis	UK	Probably weak	Thematic survey
Deryabina A, El-Sadr WM. 2017	8	2017	Service users	Interviews	Thematic analysis	Kyrgyz Republic	Possibly strong	Thematic survey
Mcveigh J, Hearne E, Bates G, Van Hout MC. 2017	28	2017	Pharmacists	Interviews	Thematic analysis	Ireland	Possibly strong	Thematic survey
Philbin MM, Fujie Z. 2014	38	2014	Service users/ key NSP stakeholders	Interviews	Thematic analysis	China	Probably weak	Thematic survey
Rhodes T, Lyons M. 2006	42	2006	Service users	Interviews	Thematic analysis	UK	Probably weak	Thematic survey/ conceptual thematic description
Strike CJ, Myers T, Millson M. 2002 Secondary associated reference: Strike CJ, Challacombe L, Myers T, Millson M. 2002	49	2002	NSP Staff/ key NSP stakeholders	Interviews/ observation	Thematic analysis	Canada	Probably weak	*Conceptual/thematic description*
Syvertsen JL, Pollini RA. 2020	51	2020	Service users/ key NSP stakeholders	Interviews/ observation	Thematic analysis	USA	Probably weak	Thematic survey
Treloar C, Rance J, Yates K, Mao L. 2016	53	2016	Service users/ NSP staff	Interviews	Framework analysis	Australia	Possibly strong	Conceptual thematic description
Varma Falk M, Stromdahl S, Ekstrom AM, Kaberg M, Karlsson N, Dahlborn H, Hammarberg A. 2020	56	2020	Service users	Interviews	Content analysis	Sweden	Probably weak	Thematic survey
Kesten JM, Ayres R, Neale J, Clark J, Vickerman P, Hickman M, Redwood S. 2017	62	2017	Service users/ NSP staff	Interviews	Framework analysis	UK	Possibly strong	Thematic survey

3. **Knowledge and information**: Views and experiences of misunderstandings and uncertainty regarding treatment and services. Data can be conceptualised within two subthemes: (1) understanding treatment and (2) understanding harm reduction.
4. **Goals, needs and preferences**: Views and experiences of personalised services. Data can be conceptualised within two subthemes: (1) treatment ambitions and (2) options and choice.

These themes and subthemes are presented in more detail in the following sections. *Table 3* lists the main findings of our synthesis by third-order constructs (our overarching themes and subthemes) and indicates which of the included studies contributed first-order constructs (direct interviewee quotes from an included study) and second-order constructs (author interpretations) to each.

TABLE 3 Studies contributing to main findings of MS by first-, second- and third-order constructs

Third-order constructs (MS subthemes)	First-order constructs (OST studies)	Second-order constructs (OST studies)	First-order constructs (NSP studies)	Second-order constructs (NSP studies)
	Study ID (Table 1)	Study ID (Table 1)	Study ID (Table 2)	Study ID (Table 2)
(Power and control) The overarching theme of power and control involved feelings of powerlessness and over-regulation and thus lack of control among service users. Power and control can be understood in terms of three subthemes: (1) restriction and inflexibility; (2) lack of autonomy and (3) service user fears				
(Power and control) Restriction and inflexibility	5, 7, 10, 13, 15, 16, 18, 19, 20, 21, 23, 30, 31, 34, 36, 40, 41, 42, 43, 44, 45, 48, 53, 54, 58, 59, 61, 63, 65	4, 5, 7, 10, 11, 13, 15, 16, 18, 19, 20, 21, 22, 23, 27, 30, 31, 34, 35, 36, 38, 40, 41, 42, 43, 44, 45, 46, 48, 53, 54, 56, 57, 58, 59, 60, 61, 63, 65	3, 8, 28, 38, 42, 49, 51, 56, 62	3, 8, 28, 38, 42, 49, 51, 62
(Power and control) Lack of autonomy	5, 6, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 30, 31, 34, 36, 39, 40, 41, 42, 43, 44, 52, 54, 57, 58, 60, 61, 63	4, 5, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 27, 30, 31, 34, 36, 37, 38, 39, 40, 41, 43, 44, 45, 52, 54, 57, 58, 60, 61, 63		
(Power and control) Service user fears			8, 38, 42, 56	8, 42
Stigma The overarching theme of **stigma** involved stigmatisation within systems and services as well as enacted stigma from service staff and from other service users. This could be compounded by the presence of felt stigma from service users themselves. Stigma can be understood in terms of four subthemes: (1) monitoring and surveillance; (2) trust and identity; (3) service transactions; (4) anonymity and confidentiality				
(Stigma) Monitoring and surveillance	2, 5, 6, 15, 17, 18, 20, 34, 35, 39, 44, 53, 55, 58, 59, 60, 61	2, 4, 5, 6, 15, 17, 18, 20, 22, 32, 34, 35, 36, 39, 44, 52, 53, 55, 58, 59, 60	3, 28, 32, 56	28, 32

TABLE 3 Studies contributing to main findings of MS by first-, second- and third-order constructs (*continued*)

Third-order constructs (MS subthemes)	First-order constructs (OST studies)	Second-order constructs (OST studies)	First-order constructs (NSP studies)	Second-order constructs (NSP studies)
	Study ID (Table 1)	Study ID (Table 1)	Study ID (Table 2)	Study ID (Table 2)
(Stigma) Trust and identity	10, 13, 18, 19, 20, 23, 31, 34, 35, 36, 39, 44, 53, 57, 59, 63	10, 13, 18, 19, 20, 22, 23, 31, 34, 35, 36, 39, 44, 45, 52, 53, 57, 59, 63		
(Stigma) Service transactions			3, 28, 42, 51, 53, 56	3, 28, 42, 51, 56
(Stigma) Anonymity and confidentiality			3, 8, 28, 38, 42, 53, 56	3, 8, 42, 52, 53, 56
(Knowledge and information) The overarching theme of **knowledge and information** involved the recognition of the importance of service users being made aware of services and supported to make informed decisions about treatments and reducing harm. Knowledge and information can be understood in terms of two subthemes: (1) understanding treatment and (2) understanding harm reduction				
(Knowledge and information) Understanding treatment	5, 7, 18, 20, 22, 23, 31, 32, 33, 34, 37, 52, 59, 61	5, 7, 10, 11, 13, 18, 20, 22, 23, 31, 32, 33, 34, 37, 45, 52, 59, 61	3	3
(Knowledge and information) Understanding harm reduction			3, 8, 28, 32, 38, 42, 56, 62	3, 8, 42, 62
(Goals, needs and preferences) The overarching theme of **goals, needs and preferences** focused on issues concerning the provision of person-centred services that are capable of meeting different treatment goals and wider needs and in providing options and choice that cater for different preferences. Goals, needs and preferences can be understood in terms of two subthemes: (1) treatment ambitions and (2) options and choice				
(Goals, needs and preferences) Treatment ambitions	4, 5, 10, 15, 18, 19, 21, 23, 25, 29, 30, 31, 34, 35, 36, 39, 41, 43, 44, 48, 50, 52, 53, 58, 59, 60	4, 5, 10, 13, 15, 16, 18, 19, 20, 21, 22, 23, 25, 29, 30, 31, 32, 34, 35, 36, 39, 40, 41, 43, 44, 48, 50, 52, 53, 57, 58, 60		
(Goals, needs and preferences) Options and choice	5, 12, 18, 19, 20, 21, 23, 30, 40, 41, 52, 60, 61	5, 6, 10, 12, 18, 19, 20, 21, 23, 30, 31, 39, 40, 41, 52, 58, 60, 61,	3, 8, 28, 38, 39, 42, 51, 53, 56, 62	3, 8, 38, 42, 56

Overarching theme of power and control

Power and control

The overarching theme of *power and control* involved feelings of powerlessness and over-regulation and thus lack of control among service users. Power and control can be understood in terms of three subthemes: (1) *restriction and inflexibility*, (2) *lack of autonomy* and (3) *service user fears*.

1. Restriction and inflexibility

The OST delivery systems and services were identified as 'autocratic',[56] with some providers justifying the need for strict rules and sanctions as a necessary power imbalance integral to a system that requires adherence.[56–59] Service users reported powerlessness due to being coerced by services into specific regimes, medication types, dosages, etc. Strict rules and coercive practices can disempower service users who are not involved in decision-making and feel disrespected by the imposed authority.[60,56–59,61–89] Service users may feel more vulnerable and powerless, especially where unable to fully engage in a process of informed consent and thus may be more likely to reject the perceived pressure to comply with ongoing prescribing regimes.[22] Practices such as providing urine samples (often under direct supervision) to prove (illicit) drug-free status and ensuring attendance at all appointments are viewed as degrading and potentially producing distrust between service users and service providers, as it invokes a sense of being both observed and disciplined.[58,59,68,77,78,81,90–94] Moving from a high threshold set of rules to a lower threshold service, with a more relaxed person-centred approach, could increase trust between service users and staff and improve therapeutic relationships.[91]

Studies in NSP settings suggest restrictive practices tend to operate within service delivery that is outside the control of service users. These include restrictions in the amount of equipment provided and the extent to which the quantity of clean injecting equipment is dependent on the exchange of used needles.[82,95–100] Equipment restrictions were related to the notion of staff feeling the need to enforce the rules of NSP among service users. This was despite an awareness of the danger of this type of restrictive approach, in terms of public health among those using the service, of which people experiencing homelessness may be particularly affected.[79,82,96,99] Alternatively, limiting the supply of needles appears to be used and accepted by service users as a way of avoiding the unnecessary waste of resources.[82] There were also restrictions related to the type of needles available, which service users generally felt they had no control over, especially regarding unexpected changes to the type of equipment available. Service users appear to be resistant to the change implemented without consultation as they felt they were better aware of what worked best for them and needed to feel in more control.[97]

A lack of power can interact with the competing demands of enjoying drug use and staying safe. Both are important to service users, but the former may outweigh the latter.[79,87,97] Conversely, an increased number of supplies that can be provided were viewed as facilitating NSP engagement and safer injecting practices more generally. This way of operating NSP appeared to place the service user as the expert in control of the quantity and type they required for themselves and others.[82,95,96,98,99] Acknowledging service users as the expert regarding their needs and preferences was viewed by some staff as a way to empower clients and encourage positive engagement and retention in services,[73,97] especially regarding the acceptability of new types of safer equipment, or information regarding the minimisation of harm.[97] Strict rules around NSP and the limiting of supplies also relate to service fears of equipment being sold on the black market.[96] Service staff also had concern over discarded or unsafe retention of used needles that could present a danger to others, including children. Equipment being sold on relates closely to wider service provider concerns regarding the secondary supply of injecting equipment, where individuals pick up and drop off equipment on behalf of others.[82,96,99] This seems to encourage the enforcement of strict rules, which may be particularly detrimental to those who do not engage with NSP services and rely on the secondary distribution of clean equipment.[82]

2. Lack of autonomy

Primarily, service users' lack of autonomy is directly related to insufficient choice in terms of being able to set their own goals and influence their treatment: service users felt that they had to surrender their sense of autonomy to receive OST in the format in which it is delivered by services.[56,58,59,64,67,73,83,89,94,101] Not only do service users perceive a lack of control over what kind of medication they want to receive, but they also perceive a lack of control over dosage levels. Service users spoke of being '*trapped on a dose*' and having requests to increase or decrease a dose denied by service staff.[56–58,61,66,67,73,77,78,81,84,102]

The organisation of systems and services and processes of service delivery can also create disparities in power and control between service providers and clients. Waiting times and difficulty in accessing services can reduce clients' sense of autonomy and control over their treatment,[60,62,67–71,80,86,90,101,103–106] while 'daily dosing' regimes are incompatible with service users establishing or maintaining other important life goals and responsibilities.[60,57,61,62,67–69,71,74,75,81,83,90,94,101,107] Strict dispensing arrangements and clinical dosage decisions appear to lead to an overwhelming feeling of powerlessness among service users.[60,56,58,62,64,66–68,71–73,84,93,102,108]

3. Service user fears

Specific to NSP service provision, service users may have fears that can adversely impact on their willingness to engage with the service. For example, registration processes that require service users to provide a name and address before being able to collect equipment was perceived as being accessible by authorities (e.g. police, social work and benefits system) and thus as a barrier to NSP engagement.[79,82,87,96] Service users were aware that surveillance and arrest for low-level offences often took place around NSP sites, which could act as a significant barrier to access.[79,82,96] A perceived lack of control over confidentiality fed into service user fears of contact with criminal justice and welfare services, and service users were unsure if their drug-using status would be passed on to authorities by service staff.[79,82,96] Specific barriers to women's engagement were their fears concerning male violence and threat of removal of their children.[57,96]

Stigma

The overarching theme of *stigma* involved stigmatisation within systems and services as well as enacted stigma from service staff and from other service users. This could be compounded by the presence of felt stigma from service users themselves. Stigma can be understood in terms of four subthemes: (1) *monitoring and surveillance*, (2) *trust and identity*, (3) *service transactions* and (4) *anonymity and confidentiality*.

1. Monitoring and surveillance

Within OST treatment settings, staff were said to enact stigmatising behaviours towards service users.[60,57,58,61,62,67,71,75,83,88,92,107–110] These included the limiting practice of only allowing service users into services (often pharmacies) one at a time while also being monitored (even when shopping in pharmacies for mundane items that other members of the public shop for).[58] Thus, service users perceived that staff did not want them in their service and that they were viewed as thieves and potentially volatile customers.[58,79,107,110] There is evidence that some minority groups accessing OST (e.g. members of the travelling community) are concerned about being seen as a drug user, as this is considered to be particularly shameful in terms of their cultural identity.[103,105] There is also evidence that for some women, entering NSP can reinforce a self-perceived stigma of being a person who uses drugs, which could be especially difficult to overcome.[87] Conversely, NSP sites may be one of the few places where women who inject drugs are treated with respect and do not feel stigmatised.[87] The pharmacy setting was also considered to be stigmatising, as private consultation areas or separate entrances highlighted differences in comparison to other customers and anonymity was difficult to ensure.[57,58,69,70,76–78,87,88,95,101,103,111] This can be particularly problematic in rural areas.[101] Take-home doses of OST medication such as buprenorphine was viewed as less stigmatising, allowing service users to develop and maintain feelings of becoming and being 'normal'.[61,89,101,112]

2. Trust and identity

Service staff perceived (or actual) that lack of trust in service users was another feature of stigma that can impact on the effectiveness of services and influence engagement, retention and exit from OST. Service users were viewed by some staff as untrustworthy, which is detrimental to providing a supportive service to people who are experiencing drug-using harms.[67,75,88,92,108] Lack of trust in service users, including fear of theft, violence and potential for cross-infection, relates more widely to issues of stigmatisation and 'othering' of drug users.[83,88,92] Staff concerns over OST diversion and the dangers of storing controlled substances in service users' homes were further barriers related to trust.[76] Issues relating to identity and self-esteem were bound-up in the notion of stigma.[83]

One of the rationales for service users to engage with OST is to achieve abstinence and make the transition from what people considered their current 'abnormal' identity to a drug-free individual as a respected and contributing member of society ('normal identity').[68,83] In other words, moving from the 'other' back towards a sense of 'belonging' within society. However, while receiving a methadone prescription within OST can initially help people to move towards a 'feeling of normality', this can be short lived, as being on methadone becomes viewed as another stigmatised addiction.[68,69,74,84,94] In addition, peer-to-peer stigma may exist, wherein those on methadone are considered to be inferior to those actively supporting an illicit drug habit.[77,78,84,88,94,106] People in OST may be viewed as substituting their addiction to a lesser drug (in terms of effect), as they lack the skills or finances to maintain heroin use.[77,78,106] Further to this, even among those using methadone, there appears to be stigma regarding dosage, with those on a high dose being considered 'lifers'.[84,88,94] This can cause problems in terms of reaching an optimal dose, which has negative implications for the outcomes of engagement, retention and successful exit from OST treatment. Furthermore, it has been found that using heroin can engender a sense of belonging and inclusion, which is absent from the OST experience.[59,64,83] On entering treatment, it appears that after initial encouragement, some people find themselves searching for new ways to define themselves, as the activities that shaped their life in the pursuit of drugs and the community that supported that lifestyle become absent, resulting in feelings of loneliness and a lost sense of belonging and purpose.[59,64,83] This can be a barrier to some service user's achievement of a successful exit from treatment (in the form of abstinence and the 'normal' identity they associate with that), as they continue to use heroin because they miss the social connectedness and purpose that were synonymous with their previous identity.[64] Additionally, some people who achieve abstinence may still be unable to achieve what they view as a normalised identity, as they feel isolated and alone once being discharged from treatment. This may result in a return to the familiarity of drug use and the belonging that accompanies it.[59] This highlights the need for OST to provide additional services aimed at nurturing new social connections, belonging and purpose alongside prescribing.

The danger for some people is that any hope of achieving 'normality' is lost to a much more entrenched drug-using identity. It is suggested that the stigma of OST is reinforced by negative societal attitudes to this type of treatment and to its link to illicit drug use in general.[69,70,74,77,78,86,88,106,107] It is suggested that education to change the negative public perception of people in OST treatment could be a facilitating factor towards service users achieving a positive identity and thus increasing access, engagement, retention and successful outcomes from OST treatment.[88]

3. Service transactions

Transactions with NSP service staff in pharmacies are perceived as directly stigmatising, including the possibility of being identified as a drug user.[82] Service users prefer a quick user-friendly transaction time when collecting injecting equipment.[82,98] This can facilitate engagement and retention in services by reducing fears of stigma and lack of confidentiality.[82,98] Continued engagement and retention in services can be facilitated by discretion when dispensing equipment, speedy transactions, having separate entrances and private consultation rooms.[82,98] Paradoxically, motivation to engage in speedy transactions among some pharmacy staff may occur due to stigmatising perceptions of service users as thieves or contagious.[82,98] Although service users and some pharmacy staff prefer fast transactions, other pharmacists suggested a preference for longer transactions in order to build positive relationships, better provide harm reduction information or to signpost people to other important services, which in itself is at odds with the fact that pharmacists were often viewed as more stigmatising than specialist NSP service staff.[95,98,100] This is important, as good staff relationships, especially those in which staff display caring and encouraging attitudes, are facilitators to engagement and retention with NSP services.[82,87,92,95]

4. Anonymity and confidentiality

Having a drug-using status uncovered while accessing pharmacies was a barrier to engagement with NSP services. This was the case whether it was in a specialised drug service or a pharmacy.[79,82,95,96,98] For some women, entering NSP reinforced a self-perceived stigma of being a person who uses drugs that could be especially difficult to overcome.[87]

Conversely, NSP sites may be one of the few places where women who inject drugs are treated with respect and do not feel stigmatised.[87]

The existence of generic private consulting rooms could be viewed as enabling people to reveal their drug use in private, thus avoiding the stigma of others.[95] However, private consultation rooms in different types of NSP were often experienced as stigmatising due to the way in which they were located or operated, infringing anonymity and highlighting difference.[95] Specialist sites were seldom mentioned in the literature, but where they were, discussion was made of more knowledgeable, less judgemental and welcoming staff, which appeared to better facilitate the development of positive relationships.[95]

Service users discussed a lack of trust as a barrier to engagement and retention in NSP services, which appears to interact with fears of a lack of confidentiality and police involvement (also discussed in *Power and control*).[96] Fears around confidentiality and trust were important barriers for some women accessing NSP.[87] In some jurisdictions, there is a legal duty for services to report to social services should they suspect child negligence.[87,96] Entrenched attitudes towards women's roles in society, particularly as mothers and caregivers, are such that those who are identified as drug users carry a twofold stigma as drug user and drug-using mother.[87,96]

Initial contact with a NSP service was seen as important, and contact which was open and friendly and non-judgemental was valued, and it was conducive to building trust between the service user and the service provider.[92] From the perspective of NSP staff, trust was viewed as a vital component for developing an effective relationship and effective service delivery.[92]

Knowledge and information

The overarching theme of *knowledge and information* involved the recognition of the importance of service users being made aware of services and supported to make informed decisions about treatments and reducing harm. Knowledge and information can be understood in terms of two subthemes: (1) understanding treatment and (2) understanding harm reduction.

1. Understanding treatment

Service user knowledge and beliefs of the potential negative impacts and consequences of treatment were important in influencing their decisions regarding OST. The knowledge of the physical effects of methadone specifically focusing on weight gain, bleeding gums and the sedative nature of its effects impacted on treatment decisions.[60,62,64,65,67,69–71,74,75,84,102,106,108,109] For some, knowledge and beliefs about treatment were developed through witnessing other people engage in a cycle of failed OST, or long-term dependence without progress.[60,62,71,75,102,108] Additionally, a previous negative experience with methadone treatment can reinforce this assumption and discourage re-entry to services.[64,67,69,102,106] Lay beliefs also persist with some service users espousing the effects of methadone as they have heard of them rather than from experiential knowledge or witnessing others.[60,62,69–71,75,106,108,110]

Lacking knowledge of OST may limit the service user's ability to make informed choices regarding their treatment.[60,59,62,63,67,69–71,74,108] Although service users may have some knowledge about OST, they may be less familiar with the range of available OST medications (such as buprenorphine and extended-release buprenorphine) and the potential advantages or disadvantages of these medications.[70,74,89,113] Lacking knowledge reduces the ability of service users to determine the positives and negatives of any OST and how it may fit with their own needs and goals.[108,113]

Inadequate communication between providers and clients at the time of treatment initiation can produce poor levels of knowledge about treatment regimens (especially methadone), which can lead to unrealistic and unmet expectations and act as a barrier to retention in OST.[88] Information deficits regarding the long-term commitment and potential side effects of treatment, the strict demands of a treatment regime and the incongruence of the regime to the achievement of goals can erode trust and further constrain the service user's power and control in treatment decision-making.[63,108,113] For example, many initiated a methadone programme with the desire and belief that it would be the first step towards achieving abstinence from illicit drugs relatively quickly.[60,62,63,67,69,71,74] Instances where treatment experiences do not meet with treatment goals can leave the service users feeling dissatisfied. This appears to be compounded by misaligned treatment expectations between OST providers and clients, with imbalances in power and control coming into effect regarding the ideal goal of treatment and the ideal dose and length of treatment.[60,59,62,63,67,69,71,74] The importance of providers providing information about treatment, discussing treatment time frames, agreeing treatment plans and planning for discharge was highlighted as an important factor likely to improve engagement, retention and successful exit from treatment.[60,62,69,71,74]

Levels of NSP staff knowledge around OST treatments were also seen as important by service users. It would appear that more experienced and well-trained staff are less judgemental than other staff and are considered by service users to be more able to establish trusting relationships.[95] Further training was seen by pharmacy and specialist drug service staff as a requirement to improve the effective provision of equipment, advice and referrals to other services.[95]

2. Understanding harm reduction

From the perspective of service users, there were issues around lack of knowledge about harm reduction services, the existence of harm reduction services, where they are located and opening times.[82] Lacking this knowledge is an impediment to service access and use. In NSP, this is particularly pertinent for new injectors requiring new sterile equipment.[79,96,97]

These knowledge deficits suggest the need for more visible information or potentially peer-to-peer educators to advise those who are new to injecting.[96–98,110] Peer-to-peer education was considered as an effective way to disseminate the existence and location of services and accurate information on available treatments and safe injecting.[79,96–98]

New injectors were also considered more likely to lack knowledge of the potential consequences of unsafe injecting practices and may not view BBV as a serious risk, with early experiences of injecting strongly influencing subsequent injecting practices.[79,96,97] It was common for people to be shown how to inject or to be injected by more experienced injectors.[97] There were concerns that the location of current NSP services is inadequately disseminated. This may lead to the belief that additional services are needed, when in fact, promoting existing services is all that is required.[79,82] It would appear that good communication and information between NSP services and other allied services (e.g. primary healthcare facilities, social work and housing) is important in order to link service users into current NSP provision.[87] Specialised drug services, more so than pharmacies, were described as providing comprehensive education materials on injecting drug use, including posters and leaflets. Nevertheless, the cost of providing information material was viewed by staff as a possible barrier to information being more widely disseminated by NSP services.[95] It was suggested that NSP could encourage more engagement via the distribution of quality information materials, showing educational videos and providing refreshments in a safe space in which peers and staff can socialise.[96]

Goals, needs and preferences

The overarching theme of *goals, needs and preferences* focused on issues concerning the provision of person-centred services that are capable of meeting different treatment goals and wider needs and in providing options and choice that cater for different preferences. Goals, needs and preferences can be understood in terms of two subthemes: (1) treatment ambitions and (2) options and choice.

1. Treatment ambitions

Service users may have a range of different treatment goals. For many service users, their motivation to engage with treatment was to gain some temporary stability from illicit drug use.[59,61,64,67,68,70,74,81,88,90,101,110] For people who were motivated into treatment in terms of temporary stability, it appears that it may be important that they have some agency to negotiate a dosage that is suboptimal so that they can continue to enjoy the use of drugs when they have the means to do so.[64] However, the strict rules often operated by services (see *Power and control*) are not conducive to increased retention among people who engage with treatment, especially for those motivated to engage based on a goal of stability (whether that be temporary or long term).[60,56,58,62,64,66,68,69,71,73,75,77,78,80,81,83,92,94,101,106,107] It is suggested that low-threshold services may be more conducive to keeping service users engaged and retained in OST, particularly where lapses into periods of illicit drug use (viewed as an inevitable part of their journey) were not necessarily met with sanction or expulsion from services.[58,67,76,101,107,114] Engaging with low-threshold OST services enables some service users to start the journey towards self-acceptance and offers hope for the future.[114,115]

Once engaged and retained in treatment, it is possible that people with a goal of temporary stability can start to address changing treatment goals (such as long-term stability or even abstinence).[68,74,81] The speed of entry into methadone treatment can be an important facilitator towards actively seeking recovery as a goal.[68] However, service users can feel 'stuck' on methadone since they may need larger doses to maintain stability, but the speed of action of buprenorphine can be a solution for people who wish to progress towards the ultimate goal of abstinence from substance use, including opiate substitutes.[67]

For some service users with a treatment goal of abstinence, the strict rules and regulations associated with OST were viewed as a facilitator to keeping them focused on their goal and overcoming the barriers at least at the early stages of their treatment.[59,74,76–78,94] Strict rules for adherence (such as no concurrent illicit drug use), with regular contact, drug testing and sanctions were considered to be helpful components of treatment.[56,59,67,74,76–78,91,94,116] However, the control that is exerted through rules and contracts is not always conducive to those people who wish to move towards abstinence and recovery, especially for those who wish to achieve a successful and abstinent exit from services.[57,76,81,90,101,108,114] The rules and controls around methadone delivery are viewed as prohibitive to establishing a 'normal' life.[60,56,58,62,64,66,69,71,73,75,77,78,82,83,94,101,106,107] For example, entering and maintaining employment or abstinence when daily visits to services are a requirement of methadone prescribing is difficult for many service users.[60,56,58,62,64,66,69,71,73,75,77,78,82,101,106] This is one reason why some people who are working towards or who are in employment would prefer to be able to access long-acting buprenorphine, for example, but are not necessarily able to.[61,74]

Where methadone is seen as another form of drug use or addiction, it is also perceived as incompatible with recovery.[68,69,74,77,78,88,110] One aspect of the perceived incompatibility of taking methadone while aspiring towards recovery is that having to attend services that distribute methadone brings service users into contact with other people who are continuing to use drugs, and potentially, also drug dealers.[57,61,66,68,80,81,83,107,108,111,114] Take-home doses or long-acting buprenorphine were viewed as a possible solution to this problem.[89] On receiving methadone, some service users seeking abstinence and or recovery reported fear of becoming chronically addicted as well as of having their freedoms restricted. This has the potential impact of reducing service users' ability to satisfy wider goals, needs and preferences, such as the desire to maintain employment, satisfy child care responsibilities and the freedom to enjoy activities 'like everybody else'.[59,64,67,68,70,74,86,110] By contrast, for those seeking abstinence, long-acting buprenorphine was viewed as a more effective medication due to the speed of recovery and the reduced need for restrictive practices, such as daily observed consumption.[61,67,89,117]

2. Options and choice

The provision of a range of options that can address various goals, needs and preferences, and from which service users have choice, appears to be important.[56,57,64,67–69,73,74,80,81,101,103,106–108] A lack of patient-centred individualised care is the experience of some OST patients.[60,56,62,67,71,80] Treatment goals may differ between service users and providers, communication about different medications can result in unrealistic treatment expectations and a choice of prescribed treatment that may not be optimal for a particular treatment goal.[89] In addition, service users expressed the view that the predominance of methadone restricts the possibility of other treatment options being made available to them.[67] Service users appear to lack choice regarding a range of additional interventions (over and above an OST prescription) that may be important in terms of an optimal experience of treatment.[56]

Co-occurring mental health problems are an issue that may result in early treatment exit or difficulty in adhering to the strict rules and regulations that may be attached to an OST programme.[117] For some, OST medication alone is not considered to be sufficient to address illicit drug use, and additional physical health, mental health, housing, psychosocial and BBV support would be required to improve the treatment experience.[56,57,67–69,73,74,80,81,101,103,106,107]

When services offer a limited range of NSP options to support safe drug use, people may choose to prioritise drug use over reduction of harm. The opportunity/cost of travel and time to get clean injecting equipment[79,82,95–97] or fears of stigma or incarceration[79,82,87,96] could take precedence over collecting equipment, especially among service users lacking knowledge of injecting risk behaviours and health outcomes. In addition, some people choose to avoid attending NSPs to evade drug-using acquaintances or drug dealers.[82,87,95] The economic and time costs of attending NSPs could be challenging for some people. For example, situations where the supply of equipment was limited generated a need for more frequent trips to NSP services, thus incurring both costs to service users time and finances.[79] The geographical location of a NSP could exacerbate this, especially when the NSP was considered by service users to be too far away.[79,82,87,95,96,100] Issues such as opening times[79,82,87,95,107] and the physical distance needed to travel to sites[79,82,87,95,96,100] were important aspects of NSP provision, which compound one another and reduce attendance. Locations perceived as 'inconvenient' were also a barrier to the use of NSP. This was related to factors such as having to travel to a service while experiencing drug cravings, being visible within services[79,82,96,98] or opening times interfering with work commitments.[82,87,96] The need for more NSP outlets, especially near where most service users live and inject drugs, was considered as a service improvement that may mitigate the barriers related to restricted opening times and large geographical distance to services.[82] In addition, 24-hour access could be considered as a facilitator to using NSP services that were previously operated with restricted opening times.[79,82,87,96,98] Factors such as access to private rooms,[95,98] access to additional facilities, such as computers to encourage people to use services,[95] and having a more person-centred approach by staff[82,87,92,95] were other seen as other facilitators to access, engagement and retention. Outreach services were also viewed as an option in helping to provide more confidential services, especially in small towns where people may be more afraid of being seen, which could also hint to the usefulness of vending machines or delivery services.[96]

In addition, the range, quantity and quality of equipment available were also viewed as facilitators to engagement and retention, as these could provide choice to service users and cater to specific needs and preferences. This included choice regarding types of needles, additional injecting paraphernalia and other items such as naloxone or condoms.[79,82,87,95–98] Many other options to reduce the harms associated with drug use were viewed as important, for example: HIV testing, wound care services and support, information around soft-tissue and skin infections.[79,95,96,98] In addition, women who inject drugs require a range of services and supports that are specific to their health needs. For example, sexual and reproductive health information, including advice and counselling on sexual risk behaviour and prevention, maternity groups and special support during pregnancy and post partum.[87] Women-only NSP, or exclusive hours for women to attend, may be a facilitator to engagement.[87] On-site support to cater to wider needs, such as finding employment, meeting housing needs or receiving psychological support, facilitates quick and direct access to these services at the point of need for such service users.[95,96]

Theoretical model of barriers and facilitators

The data, described in the sections above, suggest that services are not operating optimally, with various factors overlapping, interacting or changing over time, to compound the barriers, reflecting some overlap between the four key overarching themes (power and control; stigma; knowledge and information; and goals, needs and preferences). Mounting evidence emphasises the importance of understanding healthcare service delivery in terms of relational interaction.[118,119] Rather than viewing barriers as residing in any one independent domain, the client-centred relational framework[120] positions them as interactive, with the service user at the centre of service provision. Our final synthesis drew on this framework to develop the conceptual explanatory model presented in *Figure 5*.

Service users feature at the centre of the model, as the data suggest the need for a person-centred approach. The outcomes of access, engagement, retention and exit fit just outside the centre, within a revolving circle, to represent the fact that various factors could affect outcomes differentially, dependent on how they are experienced. Beyond these outcomes, lie the factors identified within the MS. These overarching concepts are within a Venn circle to represent the potential overlap, coexisting and interactive nature of the factors. This model also represents potential macrolevel influences (out with the scope of this study), at the *political*, *social* and *cultural* levels, presented on the outer margins of the model. This acknowledges both the source of some barriers and facilitators as well as the locus of interventions to resolve suboptimal engagement with OST and NSP.

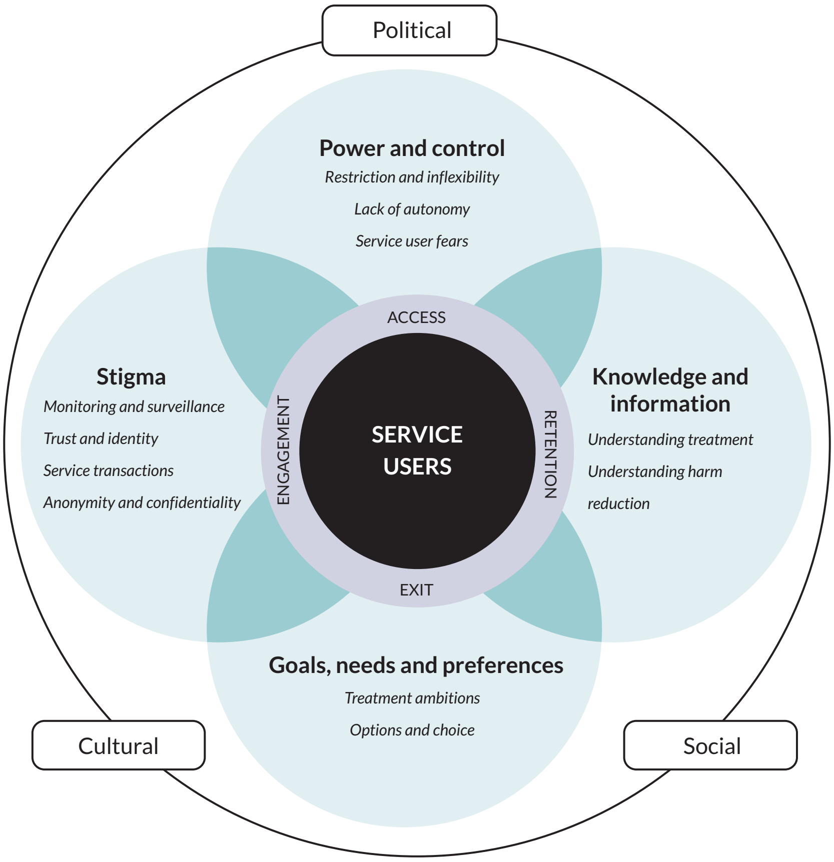


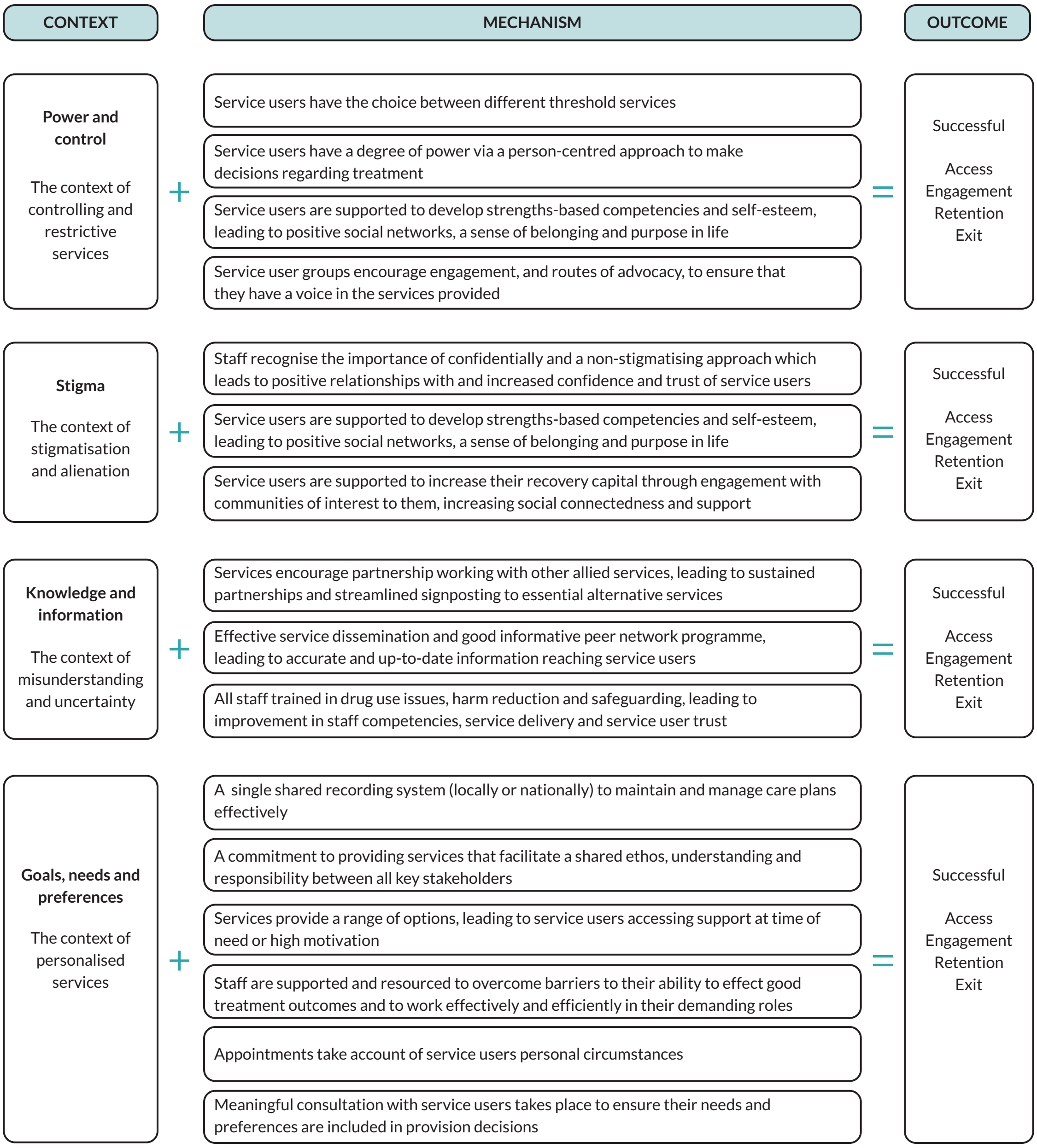
FIGURE 5 Conceptual model of access, engagement, retention and exit for NSP and OST.

Development of context, mechanism and outcome configurations

The barriers and facilitators identified in the MS significantly contribute to our understanding of important 'contexts' within which services are delivered (the overarching themes of power and control; stigma; knowledge and information; and goals, needs and preferences). Within these contexts, the barriers and facilitators that were identified contributed towards hypothesised mechanisms that could lead to optimal provision regarding successful access, engagement, retention and exit. This contributed significantly to the identification of a theory of how services can ensure optimal service provision.

Based on these findings, we created a first draft of CMO configurations to inform an IPT (*Figure 6*). In accordance with RE terminology and convention, these are expressed as context + mechanism = outcome (as indicated by the + and = symbols in *Figure 6*). Furthermore, each stated mechanism should be linked with a context and outcome via 'if' and 'then' statements (*in* context A, *if* mechanism 1, *then* successful outcome). For example: *in* the context of controlling and restrictive services (power and control), *if* service users have the choice between different threshold services, *then* this can lead to successful outcomes (improved access, engagement, retention and exit).

Our analysis hypothesised that there were a range of mechanisms within four contexts capable of facilitating optimal provision regarding the outcomes of interest. Within the context of controlling and restrictive services (*power and control*), four mechanisms were hypothesised to resolve issues related to decisions regarding who has the power to control and thus determine access to services and treatments. Within the context of stigmatisation and alienation (*stigma*), three mechanisms were identified to reduce the impact of stigma, increase confidence, trust and self-esteem. The three mechanisms within the context of misunderstanding and uncertainty (*knowledge and information*) relate to levels of staff knowledge of drug use, treatment and support, service user knowledge of drug use, drug-related harms and how all of this might impact on treatment and support services. Within the context of personalised service



CONTEXT	MECHANISM	OUTCOME
Power and control The context of controlling and restrictive services	Service users have the choice between different threshold services	Successful Access Engagement Retention Exit
	Service users have a degree of power via a person-centred approach to make decisions regarding treatment	
	Service users are supported to develop strengths-based competencies and self-esteem, leading to positive social networks, a sense of belonging and purpose in life	
	Service user groups encourage engagement, and routes of advocacy, to ensure that they have a voice in the services provided	
Stigma The context of stigmatisation and alienation	Staff recognise the importance of confidentially and a non-stigmatising approach which leads to positive relationships with and increased confidence and trust of service users	Successful Access Engagement Retention Exit
	Service users are supported to develop strengths-based competencies and self-esteem, leading to positive social networks, a sense of belonging and purpose in life	
	Service users are supported to increase their recovery capital through engagement with communities of interest to them, increasing social connectedness and support	
Knowledge and information The context of misunderstanding and uncertainty	Services encourage partnership working with other allied services, leading to sustained partnerships and streamlined signposting to essential alternative services	Successful Access Engagement Retention Exit
	Effective service dissemination and good informative peer network programme, leading to accurate and up-to-date information reaching service users	
	All staff trained in drug use issues, harm reduction and safeguarding, leading to improvement in staff competencies, service delivery and service user trust	
Goals, needs and preferences The context of personalised services	A single shared recording system (locally or nationally) to maintain and manage care plans effectively	Successful Access Engagement Retention Exit
	A commitment to providing services that facilitate a shared ethos, understanding and responsibility between all key stakeholders	
	Services provide a range of options, leading to service users accessing support at time of need or high motivation	
	Staff are supported and resourced to overcome barriers to their ability to effect good treatment outcomes and to work effectively and efficiently in their demanding roles	
	Appointments take account of service users personal circumstances	
	Meaningful consultation with service users takes place to ensure their needs and preferences are included in provision decisions	

FIGURE 6 Contexts, mechanisms and outcomes for the IPT.

provision (*goals, needs and preferences*), six mechanisms were hypothesised to facilitate services to meet service users' own treatment goals, treatment needs and preferences in relation to provision.

This hypothesised IPT was then triangulated with data collected via the online survey, reported in *Chapter 4*. The IPT was then tested via an in-depth qualitative RE (reported in *Chapter 5*) before finally being developed and described as a RPT.

Chapter 4 Online survey methods and findings

We conducted a UK-wide *online survey* of service commissioners to map current models of OST prescribing and practices, including workforce composition and the models of NSP provision, to better understand current service provision/delivery. The survey was also conducted to provide data that could inform the identification and development of an IPT, which would be subsequently tested in an in-depth qualitative RE.

Methods of online survey

A cross-sectional online survey (see *Report Supplementary Material 1*) was sent to commissioners of OST and NSP services across the UK, including Northern Ireland. The survey was distributed in Spring 2021, at a time when the COVID pandemic was still acutely impacting on all healthcare service deliveries.

A short survey instrument was developed using the Joint Information Systems Committee website (https://static.onlinesurveys.ac.uk/static/common/html/maintenance.html). The instrument was designed to obtain information on which areas provide OST and NSP services; what the model of service provision is in relation to OST provision; how they are provided, for example, outreach services, static services, pharmacy-led, medical-led, shared care arrangements; and additional questions about workforce composition and prescribing arrangements. Specific questions addressed the provision of any services specific to subpopulations of service users (those experiencing homelessness, women and those out of contact with services).

A mailing list of the target population (*n* = 183 commissioners of OST and NSP services) was created. In England, the Association of Directors of Public Health and, in Northern Ireland, the Public Health Agency agreed to circulate our survey link to our target groups. We had direct links into the alcohol and drug partnerships (ADPs) in Scotland, and Public Health Wales agreed to share their e-mail list.

The survey instrument was sent electronically within the period from March to June 2021 via an embedded link in an e-mail to the partnership lead in every commissioning authority. Along with the link to the survey instrument, respondents were e-mailed information explaining the purpose of the study and guidance on completing the questionnaire within a specified deadline. Survey respondents were asked to identify their commissioning area but were not asked for their names or other personally identifying information. Partnership leads were sent a reminder e-mail after 3 weeks if their commissioning area did not respond to the first deadline and were then given an extended deadline to respond. A third and final e-mail was sent to those commissioning areas that had not responded.

Data were uploaded into Statistical Product and Service Solutions v25 (IBM Corporation, Armonk, NY) for analysis. Descriptive statistics (frequency, range and mean) were used to analyse and report the data. Free text responses were collated and summarised.

Results of the online survey

Respondents

Thirty-two respondents, 1 each from 32 commissioning areas of 183 commissioning areas surveyed responded (an overall response rate of 17%). Respondents comprised a mix of commissioners, service managers, public health specialists and specialist pharmacists. Scotland returned 8 surveys, England 21 surveys and Wales 3 surveys. No surveys were returned from Northern Ireland. Of the 32 responses, service provision was located in a mix of city/urban and rural areas (*n* = 19; 59%), city/urban only (*n* = 12; 38%) and one rural area only in Wales (*n* = 1; 3%). The majority of organisations responsible for commissioning provided a mix of OST and NSP services, with two Scottish organisations providing NSP only.

Provision of opiate substitution therapy treatment

Prevalence of opiate substitution therapy service uptake

The approximate numbers of service users in contact with OST treatment services indicated by respondents ranged from 150 to 5450: mean 1098. The percentage of opioid users in each area not in contact with OST treatment services were estimated between 25% and 78%.

Models of care

Across the 32 commissioning areas, the 'models of care' most often used for people who are opioid-dependent were third-sector-led models (12, 38%) and NHS specialist service models (11, 34%). Of the remainder, six (19%) were multidisciplinary, two (6%) shared care led by primary care and one (3%) was solely led by primary care.

Pharmacological treatments

Between 22% and 100% of the known population of opioid users in each of the 32 areas are enrolled on any form of pharmacological treatment, with methadone ranked as the most commonly commissioned pharmacological treatment for opioid dependence. Other medications used are physeptone (a brand of methadone), benzodiazepines and espranor (a brand of buprenorphine). All areas prescribe methadone to people with an opioid dependence. In 22 areas reporting figures, between 50% and 80% of people with an opioid dependence are prescribed with methadone. The average dose of methadone reported across 16 commissioning areas was between 40 and 70 mg. Between 9% and 80% of people registered as having opioid dependence are prescribed with buprenorphine. Twenty-seven areas prescribe sublingual or wafer buprenorphine for opioid dependence. Eighteen commissioning areas prescribe long-acting injectable buprenorphine (LAIB) for opioid dependence, with < 5% of people registered as opioid-dependent on such prescriptions. Seven areas prescribe heroin-assisted treatment (HAT) (diamorphine) equating to < 1% of all people registered as opiate-dependent in those areas. No more than 12 people in any one area are prescribed with HAT. Asked if there were any types of OST treatment services needed but not provided in their areas, 13 respondents replied yes and noted a need for long acting injectable buprenorphine (LAIB) and buvidal ($n = 6$), HAT ($n = 6$), safe consumption rooms ($n = 3$), benzodiazepines ($n = 1$) and secondary care for people who are homeless. ($N = 1$)

Accessing prescriptions

Across the areas, nurse prescribers were ranked as the most responsible for prescribing, with pharmacists ranked as the least responsible. Excluding general practice, there was an average of eight prescribing outlets where people who use opioids can access a prescription (e.g. for methadone). Three areas reported > 40 prescribing outlets; 27 areas reported between 1 and 10 outlets (2 did not know). Community pharmacies were the most frequently reported mode of dispensing OST treatment. Areas had, on average, 51 community pharmacies dispensing OST (range 9–165). Almost one-third of areas reported home delivery. Three areas reported mobile outlet dispensing. Other outlets were provided by the third-sector and/or NHS drug treatment centres.

Provision of specialist opiate substitution therapy services and other services

Respondents reported specialist OST services provision to the following groups: people experiencing homelessness (21 respondents); young people aged < 24 years (18); women (16) and people currently out of contact with services (9). A further nine respondents indicated that none of the above were provided for in their area. Respondents reported services providing OST in their areas also routinely provided some of the following services:

> *Psychological support services (eg, cognitive behavioural therapy, motivational interviewing); Naloxone; Blood-borne viruses testing/Hepatitis C. treatment; Complimentary services; Peer support; Outreach; Education, training and employment; Needle exchange/Wound care/Safe storage; Recovery support; Harm reduction advice and support; Relapse prevention; Tier 4 support services (includes inpatient detoxification, residential rehabilitation and associated treatment and interventions); Parental substance misuse support; Families and Carers' Support; Criminal Justice/ Prison Link; Harm reduction; Sexual health screening and counselling.*

Barriers and facilitators to opiate substitution therapy service engagement

Respondents identified a range of different barriers and facilitators to OST service use.

Barriers

Respondents suggested a range of factors that prevent people from engaging with OST in their areas. They were either barriers associated with services and/or barriers associated with potential clients. Of the barriers noted, more emphasis was given to those that are service user-related ($n = 42$). Other barriers were related to services ($n = 20$) and wider social deficits ($n = 14$).

Barriers related to service users included:

- (Broadly) lack of motivation.
- Underlying physical and mental health conditions.
- Lack of control over medication or not wanting OST.
- Lack of knowledge/understanding of treatment and supports and how to access them.

Service barriers included:

- Location of services (e.g. difficult to access, which is more pronounced in rural areas).
- Service ethos/philosophy (e.g. abstinence-focused, deficit-based assessments).
- Service capacity (e.g. access delays, restricted hours, unconducive to women and child care needs).

Social barriers suggested were:

- Stigmatisation of service users by wider society.
- Absence of recovery capital (e.g. adequate housing and social supports).

Facilitators

Factors indicated by respondents that may enable people to engage with OST services fall under three categories: service-led and social- and individual-related enablers. More emphasis was given to service-led enablers and to a lesser extent to social- and service user-related enablers.

Service-related facilitators that may facilitate engagement with OST treatment services in the commissioning areas included:

- Rapid access to service, assessment and treatment.
- Staff who are supportive, non-judgemental, friendly, informed and knowledgeable.
- Joined-up/wraparound/multidisciplinary services.
- Assertive outreach.
- Open access services.
- Variety of treatment options, including trauma-informed, patient-oriented care and broad range of services, including group work, peer support, psychosocial interventions and recovery groups.

Social-related enablers included:

- Service users having social supports (e.g. family, friends, peers and recovery communities).
- Word-of-mouth, peer recommendations for OST/service engagement.

Service user-related enablers included:

- Self-motivation.
- Positive life events.
- Urgent need (e.g. issues with housing, criminal justice and health).

Provision of needle and syringe provision

Respondents provided information about NSP provision.

Accessing needle and syringe provision

The total number of NSP/injecting equipment provision service outlets in the commissioning areas ranged between 1 and 91 facilities (mean 27). Four areas provide 24-hour access to injecting equipment (Birmingham, Glasgow, Cardiff and Vale, and Mid- and East Lothian); the remainder did not (*n* = 26) or did not know (*n* = 2).

Each commissioning area provided different types of needle syringe programmes/injecting equipment provision for people who inject drugs. All areas provided community pharmacy NSP provision (*n* = 32), while over half provided NSP from third-sector drug treatment centres (static site) (*n* = 22) and third-sector drug treatment centres (mobile distribution) (*n* = 17). Just under half provided NSP from NHS addiction/drug treatment services (static sites) (*n* = 15). Eight areas provided mobile distribution of NSP through NHS addiction/drug treatment centres. Postal delivery by third-sector drug treatment centres and NHS addiction/drug treatment centres was provided by nine and two areas, respectively. Peer distribution was provided in seven areas. One area provided vending machines and a further area began NSP delivery to hostels within their area. Another area provided one community pharmacy, with the remaining areas providing between two and seven types of NSP.

Needle syringe programmes/injecting equipment provision services are provided to a range of service users, including specific provision to people who are homeless (*n* = 20), people not in contact with services (*n* = 20), young people (*n* = 18), women (*n* = 13) and people who inject stimulants (*n* = 12).

Equipment provision

A range of equipment was reportedly provided by NSPs in each area, with bins for safe disposal and low dead space syringes most frequently reported. Only one area reported provision of pipes for smoking drugs (e.g. crack). Other equipment provided were naloxone, information and harm reduction leaflets, alcohol swabs, obfuscating opaque carrier bags, needle clippers and sexual health-related equipment (e.g. condoms).

Twenty-three areas allow people to take injecting equipment for secondary distribution, although fewer (*n* = 16) actively promote/encourage people to take injecting equipment for secondary distribution.

Types of needle syringe programmes/injecting equipment provision considered needed but not provided were:

- pick-and-mix needle exchange services rather than ready-made packs
- crack pipes
- wider variety of needles/syringes for different drugs
- services aimed specifically at steroid users
- mobile deliveries
- vending machines to give 24/7 access
- possibility of extended hours
- safer injection/overdose prevention facility and drug checking facilities.

One respondent noted that they ‘would expect service to be regularly surveying drug-using cohort for their views on Needle Exchange, so as to ensure provision remains relevant and responsive to need’.

Commissioning Needle and Syringe

Over half respondents rated the lack of financial resources (*n* = 21) and lack of potential service providers (*n* = 18) as either very or extremely important factors in preventing the commissioning of NSP services for people who inject drugs in their areas. Seven respondents rated the lack of need as either very or extremely important, and most (*n* = 25) did not view this as an important factor.

Other factors that prevent commissioning of NSP services were public perceptions and/or opposition, budget cuts and buy-in from commissioning board members and potential service providers.

Barriers and facilitators to needle and syringe service engagement

Barriers

Individual service user barriers that prevent people from engaging with NSP in their areas included lack of knowledge of local sites, lack of injecting risks and the importance of using NSP, fear of being identified, competing priorities and 'poor capacity' for forward planning, lack of motivation and bans from pharmacies. Potential felt and enacted stigmatising processes were mentioned by 15 respondents. Structural barriers included police activity at or near needle exchange sites, needle exchanges as 'hot spots' for criminality and economic incentives for pharmacies considered too low. Service barriers were restricted opening times and locations, including limited number/lack of needle exchange sites and obsolete types of dispensing packs.

Facilitators

Factors that enable people who use drugs (PWUD) to engage with NSP in their areas comprised a range of service enablers. These included:

- Positive staff attributes (e.g. knowledgeable, non-judgemental, discreet and well-trained) and peer support workers.
- Accessible and available services.
- Services are well-promoted (e.g. via peer and recovery networks) with advice and information on support and services offered.
- Good quality and range of injecting equipment provision (IEP).
- Services have a good reputation.
- Services provide specialist support and targeted services (e.g. health needs and wound care).
- Referrals are made to other required supports.
- In addition, service ethos that hold a harm reduction approach, including no caps on IEP, and encourage secondary distribution are considered to be enabling.

Concluding statement

Regarding answering the research questions posed for the online survey, all questions were answered to some extent apart from the question around identification of the national gaps in service provision. The very low response rate of the survey, highly likely to have been due to the ongoing impact of the COVID pandemic on service capacity at the time of surveying, limits the representativeness and generalisability of the findings. The results do, though, give some insight into service delivery models in some areas. The findings from the online survey were triangulated with the findings from the MS to understand the contexts and mechanisms by which OST and NSP services may optimally deliver the outcomes of successful access to engagement with, retention in and successful exit from these services. The findings from the survey, when triangulated with the findings from the MS reported in *Chapter 3*, supported the identified IPT.

Chapter 5 Realist evaluation methods and findings

We conducted a RE by conducting in-depth qualitative interviews with multiple key stakeholders of OST and NSP services in three study sites in the UK.

The RE began by developing an IPT, which in RE is a set of plausible and testable assumptions about how a programme works. The IPT considers the underlying processes and assumptions that shape how a programme is implemented and how it produces its effects. This is organised in terms of contexts, mechanisms and outcomes. An IPT can be generated from different (and combined) data sources, for example: existing evidence of interventions and what works and barriers/facilitators and existing documentation on programmes or policies tackling the problem; qualitative data (conversations, interviews and focus groups) from those with knowledge of a programme or policy. The RE then went on to test and refine the IPT towards the development of a RPT (*Figure 7*).

Method of development of initial programme theory

An IPT was first identified and developed by generating hypotheses about the potential interactions between context (C), mechanisms (M) and outcomes (O) that explain how, for, whom and in what ways OST and NSP services can deliver an optimal service (*Figure 8*). We initially developed an IPT from two data sources: a MS (methods and findings described in *Chapter 3*) and an online survey (methods and findings described in *Chapter 4*). We also performed a documentary analysis by consulting any relevant key national policy documents from the four UK home nations. These policy documents were read and their contents were mapped against the existing CMOs identified from the MS and online survey. From these sources, we created a first draft of CMO configurations. Following this, we conducted two focus groups involving a total of nine people with lived and living experience. The focus groups involved facilitated discussion of the first draft of the CMOs, which were subsequently modified to include their views. We then conducted a key stakeholder expert discussion group, comprising members of the study team, the Study Advisory (oversight) Committee and a Drugs Research Group in England. This involved facilitated online Microsoft Teams discussions, following presentation of the drafted IPT. Members of the study team took notes regarding main discussion points and redrafted the IPT based on feedback and commentary.

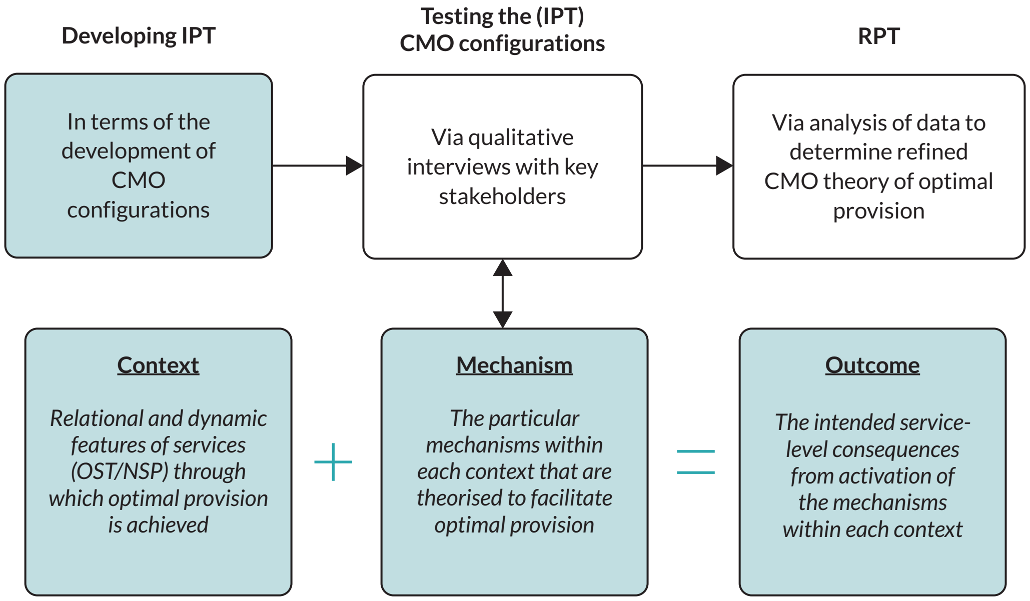


FIGURE 7 Methods of RE.

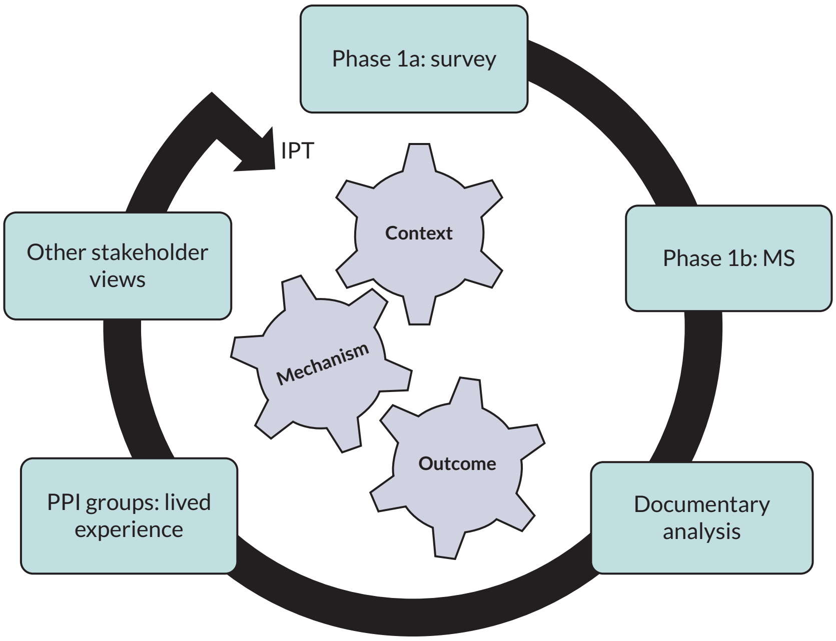


FIGURE 8 Methods of generating hypotheses about the potential interactions between context (C), mechanisms (M) and outcomes (O).

Methods for the testing of the initial programme theory

Study setting and target populations

The target population were the following, sampled from three study sites: (1) service users in contact with OST and/or NSP services; (2) service users out of contact with OST and/or NSP services; (3) core drug service managers; (4) core drug service staff; (5) non-core drug service staff and (6) service commissioners.

Study sites

Study sites were selected purposively to reflect the diversity of models of OST and NSP provision, for example, to include sites that use various models of OST prescribing, including shared care with GPs, specialist medical models and pharmacy models. Additionally, the variety of delivery models of NSP, pharmacy, specialist service, fixed and outreach models were included in the case studies. Commissioning areas that include varying proportions of third sector and NHS service delivery were included, as well as rural populations. Last, the case study sites included areas that have a range of drug-related death rates, urban/rural populations and service outcomes. The study sites that were selected to reflect these diversities were: two in England and one in Scotland. See *Appendix 3* for narrative descriptions of the three study sites.

Recruitment of study participants

Individual interviews were aimed to be held with six key stakeholder groups (minimum total per study site *n* = 24): service users in regular contact (target = 8 per site); service users not in regular contact (target = 5 per site); core service managers (target = 3 per site); core service staff (target = 3 per site); non-core services staff (target = 3 per site) and service commissioners (target = 2 per site).

Service users (in regular contact and not in regular contact)

Prospective participants either were identified and referred by core staff members or could self-refer themselves. Promotional posters (see *Report Supplementary Material 2*) and leaflets were displayed in common areas in the core drug and alcohol services in each study site. Additional snowball sampling took place as the study progressed.

Core staff, core managers, non-core services staff and service commissioners

We had already identified strategic-level service managers in each of our study sites who could facilitate access to staff. They provided contact details (e-mail addresses) for core drug services staff, managers and commissioners. The study team then communicated with prospective interviewees via e-mail to invite them to participate. Members of the study team also attended team meetings in the core services of each site to advertise the study and to invite self-referral to take part.

Data collection methods

Qualitative interviews were undertaken to provide data to answer the research questions posed and to allow testing of the hypothesised IPT. All interview schedules (see *Report Supplementary Material 3*) were coproduced with people with lived and living experiences to address the study's research questions.

All service users were interviewed face to face in a private consultation room at the core service. Some core service managers and staff and non-core drug service staff were also interviewed face to face in private consultation rooms within the core services. All other interviews were carried out by telephone or via Microsoft Teams.

All participants were provided with the study information sheet (see *Report Supplementary Material 4*) and were required to sign and return the study consent form (see *Report Supplementary Material 5*) prior to interview. All service users were provided with £25 cash following completion of the interview to compensate for their time. They were required to sign and return a receipt of collection.

All interviews were recorded using Microsoft Teams or an encrypted digital voice recorder that was password-protected. In accordance with the General Data Protection Regulation legislation, audio files were immediately uploaded to a secure file storage drive before being deleted from the recording device.

All the audio recordings were sent by secure encryption to an approved transcription company for verbatim anonymised transcription. The transcription company signed a prior confidentiality agreement. These interviews were transcribed verbatim directly via Microsoft Teams and pseudonymised by the researchers.

The anonymity and confidentiality of participants were protected in several ways. No participant names were recorded in study materials. Participant references were used for the collection and storage of consent forms, cash receipts, interview audio and transcripts. Anonymised participant demographic labels were used for the reporting of the results. Electronic files were stored on Microsoft OneDrive (Microsoft Corporation, Redmond, WA, USA) in a personal vault which was encrypted and used password protection. All anonymised research data (interview transcripts, consent forms and voucher receipts) were stored on Microsoft SharePoint (Microsoft Corporation, Redmond, WA, USA) (a secure Microsoft cloud-based storage site) with access restricted to the research team. In order to protect participants' anonymity prior to transcribing, a non-disclosure agreement was signed by the transcribing service. In addition, data were transferred using a secure, encrypted and password-protected cloud-based storage space and were deleted from the transcribing service site as soon as data were downloaded. All paper copies were destroyed.

Method of analysis

The method of framework analysis[121] was used to analyse the data. This approach is suitable for a RE investigating a theory of optimal provision for two interventions across three study sites, as it facilitates the ability to compare data across and within cases. It is suggested that while the method supports in-depth analysis of individual accounts, the relevant context that takes place within that account can be retained via the framework matrix. In addition, it also supports research where a descriptive overview of a large and complex data set is required.

Testing and refining the initial programme theories based on findings from the case studies

The IPTs were considered in relation to the analysis of the case study data on what works for who in what circumstances to see where case study data confirmed or contradicted IPTs and where case study data added more nuanced knowledge of contexts and mechanisms (and their influence on outcomes) to existing IPTs. From this process, a RPT was developed to describe the important context, mechanism and outcome configurations found to explain optimal NSP/OST service provision in terms of access, engagement, retention and successful exit. In the interpretation, a modified interactive theory was developed which could help to explain the RPT.

Results of the realist evaluation

Testing the initial programme theories

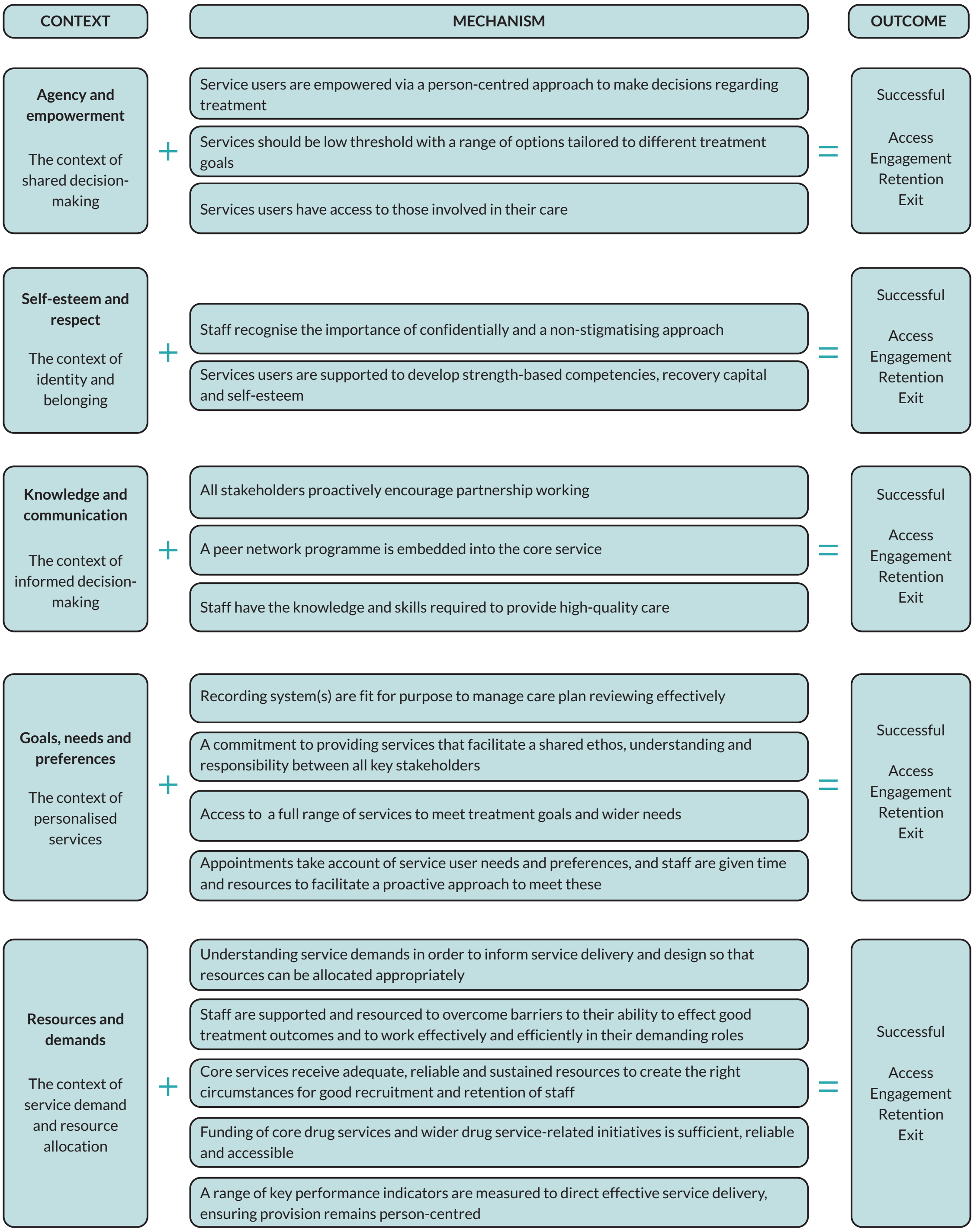
To test the IPT identified from the findings of phase 1 of our study, in-depth interview data were collected from 86 participants in 3 sites between April and September 2022. *Table 4* reports the numbers (target and achieved) of study participants by stakeholder and site. All targets were met apart from recruiting only one commissioner in site B (there is only one commissioner of services in site B). Interviews lasted between 17 and 118 minutes. Interviews with service users lasted being between 17 and 83 minutes (median 30 minutes). Interviews with all other stakeholders lasted between 23 and 118 minutes (median 62 minutes).

This process generated a wide range of verbatim views, experiences and opinions regarding current OST/NSP service provision. The data suggested that all stakeholders viewed services as effective and important but with many deficits. Our findings suggest that across and between sites, there are examples of best practice along with areas of weakness where service provision needs improvement within the CMO configurations identified in the IPT. Through the analytical process of charting and mapping, refinements of the IPT were required. Our analysis indicated that the context of power and control be better understood as *agency and empowerment*, the context of stigma be better understood as *self-esteem and respect*, and knowledge and information as *knowledge and communication*. The reason for these person-centred refinements was that these new labels for existing contexts better reflected the data in terms of understanding optimal provision of services. *Goals, needs and preferences* needed no reconceptualization as it was already person-centred and continued to be of particular importance. A new context of service demand and resource allocation, *resources and demands*, was identified from our analysis: this context includes mechanisms related to understanding the multiple demands upon services and the required resources to satisfy those demands. Our analysis also indicated that a refinement of existing mechanisms in the IPT was required. This involved a reduction in the number of mechanisms for each of the first four contexts and five mechanisms being identified in the new context of resources and demands. Further refinements to existing mechanisms were made, with some rewording of mechanisms. This mainly occurred to fully capture the person-centredness inherent in the refined programme theory (RPT) of optimal provision (see Figure 9).

The following sections of this chapter provide a description of each of the five contexts and their corresponding mechanisms. Our analysis suggests that within the hypothesised mechanisms, specific ‘mechanisms of action’ exist. Furthermore, we propose that these can be understood as mechanisms operating at either of two levels: a ‘systems level’, which relates to high-level strategic influence upon delivery of services (e.g. policy decisions, legislation and funding), and a ‘service level’ which relates to the delivery and organisation of services (e.g. service provision pathways; staff roles and responsibilities and organisational culture). Our analysis also identified the potential importance of ‘mediating mechanisms’, which can operate to increase the likelihood of successful outcomes.

TABLE 4 Numbers (target and achieved) of study participants by stakeholder and site

Study participant group	Minimum target per site	Site A achieved	Site B achieved	Site C achieved
Service users (in regular contact with services)	8	9	11	9
Services users not in regular contact with services	5	6	4	5
Core service staff	3	6	5	4
Core service managers	3	4	4	4
Non-core services staff	3	3	3	3
Service commissioners	2	2	1	3
TOTAL	24	**30**	**28**	**28**



CONTEXT	MECHANISM	OUTCOME
Agency and empowerment The context of shared decision-making	Service users are empowered via a person-centred approach to make decisions regarding treatment	Successful Access Engagement Retention Exit
	Services should be low threshold with a range of options tailored to different treatment goals	
	Services users have access to those involved in their care	
Self-esteem and respect The context of identity and belonging	Staff recognise the importance of confidentially and a non-stigmatising approach	Successful Access Engagement Retention Exit
	Services users are supported to develop strength-based competencies, recovery capital and self-esteem	
Knowledge and communication The context of informed decision-making	All stakeholders proactively encourage partnership working	Successful Access Engagement Retention Exit
	A peer network programme is embedded into the core service	
	Staff have the knowledge and skills required to provide high-quality care	
Goals, needs and preferences The context of personalised services	Recording system(s) are fit for purpose to manage care plan reviewing effectively	Successful Access Engagement Retention Exit
	A commitment to providing services that facilitate a shared ethos, understanding and responsibility between all key stakeholders	
	Access to a full range of services to meet treatment goals and wider needs	
	Appointments take account of service user needs and preferences, and staff are given time and resources to facilitate a proactive approach to meet these	
Resources and demands The context of service demand and resource allocation	Understanding service demands in order to inform service delivery and design so that resources can be allocated appropriately	Successful Access Engagement Retention Exit
	Staff are supported and resourced to overcome barriers to their ability to effect good treatment outcomes and to work effectively and efficiently in their demanding roles	
	Core services receive adequate, reliable and sustained resources to create the right circumstances for good recruitment and retention of staff	
	Funding of core drug services and wider drug service-related initiatives is sufficient, reliable and accessible	
	A range of key performance indicators are measured to direct effective service delivery, ensuring provision remains person-centred	

FIGURE 9 Contexts, mechanisms and outcomes for the RPT.

Context of agency and empowerment (shared decision-making)

Findings from the RE indicate the importance of the context of agency and empowerment. This builds upon the IPT context of 'power and control' developed earlier. Our subsequent analysis, leading to a RPT, suggests that an optimal service delivery can be achieved and understood with reference to the following three mechanisms in this context: service users are empowered via a person-centred approach to make decisions regarding treatment; services deliver tailored, non-punitive, non-restrictive harm reduction approaches that make minimal demands of service users (low-threshold services); and service users have access to those involved in their care.

Mechanism: service users are empowered via a person-centred approach to make decisions regarding treatment

Within this mechanism, there are different mechanisms of action operating at a system or a service level, which can increase and positively reinforce the mediating mechanisms of trust, motivation and feelings of self-efficacy, which in turn, can result in improved access, engagement, retention and successful exit (*Figure 10*)

Optimal person-centred approaches

Staff across the study sites appear committed to a person-centred approach, making every effort to proactively ensure that service users are supported at point of need when accessing the service and viewing access as a right for service users. Staff recognise the fundamental importance of actively and purposefully listening to service users to deliver a service user-led service. There is recognition by staff that person-centred care involves negotiating and agreeing a shared plan. Same-day access is the priority, but where it cannot happen, alternative arrangements are made. In addition, titration is the method to help get people to their optimal dose as quickly and safely as possible, but there is recognition of the importance of compromise between service user preference and safety when considering the optimal dose. Service users value having a range of treatment choice, including around flexibility of provision, dosage and medication type, as choice means that they feel empowered and can exercise agency effectively. Indeed, for some, flexibility and empowerment can destigmatise, which itself can positively reinforce progress made towards treatment goals.

> *So I did [take-home medication] … on holiday … and I did the take home doses and it was lovely … just makes me feel like a completely normal person.*
>
> *Site B, service user*

There is evidence across all sites that service users are encouraged to make informed choices and that the workforce has the necessary knowledge and skills to facilitate this. Informed choice for service users can lead to increased responsibility for their own treatment decisions and plans, leading to increased self-efficacy (especially where expectations and responsibilities are negotiated and discussed via care planning). There is evidence that the preconceived notions that some service users may have about OST options may not always be accurate. When staff proactively inform service users, this can help them to take more responsibility. It is the role of staff to provide accurate information about medication types and how different medications may support different lifestyles or treatment goals better. It is also important that staff proactively look for opportunities to inform, motivate and guide service users to have the agency to deal with the many complex life issues they face. For example, a staff member in site C proactively

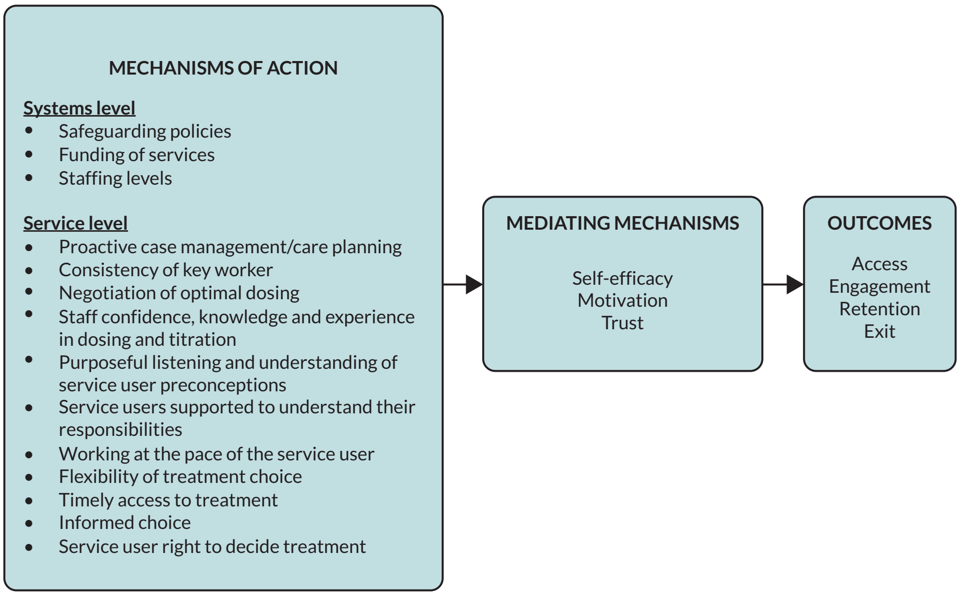


FIGURE 10 Person-centred approach mechanisms of action and mediating mechanisms.

engaged in motivational interviewing with a service user to help them achieve greater stability on their OST prescription to resolve ongoing issues regarding custody of their children.

> *I just feel as if I needed to be made aware … I think was still in a little bit of denial of how much we were affecting the kids to the point of their removal … I think being pushed too hard would push me the other way, you know. But not pushed enough … sometimes people don't recover because they don't have the right person doing the right things at the right time. We've been so lucky having the right person doing the right thing in the right way at the right time, and I was ready.*
>
> *Site A, service user*

In this example, the service user reflects upon how they were happy to cede power as they felt that they were in a trusting relationship with staff member who had their best interest at heart and who could help them to identify the problem and develop the agency to find a solution. However, the service user also indicates that if they had been 'pushed too hard', then this would have been unwelcomed and counterproductive.

Suboptimal person-centred approaches

Although choice and flexibility around dosages and medication type exist, there appears to be less choice around prescribing arrangements (possibly, mainly due to safeguarding concerns). There is less choice around person-centred medication adjustments, and titration of medication dose may not always meet service user expectations. For some, titration is a frustration as they cannot get to what they believe is their optimal dose quickly. Additionally, while staff strive to provide flexibility in the delivery of services, for example, flexible appointment times, service opening times and availability of prescribers, there are barriers to optimal provision. Many of these barriers are systemic in nature, for example, a service that can only offer set appointments that do not always meet the needs of service users.

> *I think there should be flexibility within the system … I think people do sometimes struggle … if people are working they can only be seen after working hours, then we are flexible as much as we can be around that. Maybe not as flexible as what would be ideal … It can be tricky.*
>
> *Site A, manager*

Furthermore, service users can experience lengthy waiting lists for access to a key worker, or having been seen by a key worker, for additional support services, which can further reduce the experience of person-centred care. A staff recruitment and retention problem appear to be having a detrimental impact on person-centred care. For example, a lack of staff having time to review care plans means that service users may be being maintained on a prescription despite wishing to move towards abstinence. In addition, services often rely on inexperienced staff who may not have the skills to support service users to meet their goals, needs and preferences. It would appear that this can reduce service user's agency and empowerment regarding their treatment.

It would appear that services can be risk-averse around prescribing, for example, service users' choice on prescribing arrangement (daily vs. take home) or dosing reductions is sometimes tied up in safeguarding and avoidance of risk, which can reduce the agency that service users feel they have over treatment. In some instances, such constraints can limit the possibility of successful exit from treatment, for example, where a service user desires abstinence but is maintained on a prescription of methadone. Case management is viewed as an important mechanism to encourage staff to review and identify cases where service users' treatment goals are not being met.

> *I suppose that's partly up to me … to push people … to shape those conversations with patients about reduction. Maybe it's also [the Core service] role to case manage a bit better, and so shared care workers actually have their cases looked at by managers and saying, 'This patient's been on OST for a year and a half now. What's happening?'*
>
> *Site A, non-core staff*

It is suggested that the medication-assisted treatment (MAT) standards in Scotland provide a good incentive to improve person-centred service provision. However, limitations regarding funding and a staff retention and recruitment crisis limit the service's ability to provide this.

Mechanism: services are low threshold with a range of options tailored to different treatment goals

Tailored, non-punitive, non-restrictive harm reduction approaches that make minimal demands of service users (low-threshold services) are essential to ensure that service users have the agency and confidence to achieve stability, en route to choosing a tailored approach best suited to their treatment goal (e.g. levels of abstinence vs. maintenance). This can empower service users by giving them trust in services, as well as confidence and control over their choices, and thus lead to improved engagement, retention and for some, successful exit (*Figure 11*).

Optimal provision of low-threshold tailored services

Across the study sites, services are delivered via pathways that include a range of different tailored approaches to suit different treatment goals. For example, all sites have a mandatory initial period of stability where service users are provided with same-day access to OST, assessment, provision of a key worker and are supported to achieve a person-centred optimal dose of OST. Following this initial phase of the pathway, service users have the option to pursue a tailored approach towards abstinence from illicit drugs and OST, or maintenance on an OST prescription. There is some evidence that different tailored services are available and that these are provided via a person-centred approach.

There is evidence to suggest that services are generally provided via a low-threshold model: services described as low threshold do not attempt to control service users' substance use and support them to make decisions that are person-centred. Services across the three study sites tend to focus on supporting service users to be retained in services rather than adopt a more strict and punitive approach to relapse. A low-threshold approach is viewed by staff as an essential and important mechanism for ensuring that service users are supported to have the confidence to trust staff and disclose any issues they may be having with their current illicit drug use, OST treatment goals and wider life issues. This approach is valued by service users who, for example, may relapse but then very quickly and easily can be restarted on OST when they require. People are rarely discharged for using drugs on top of an OST prescription as staff put a lot of effort to retain people. It is suggested though, that staff may use a 'carrot-and-stick' approach to motivate people to stay engaged, which may mean that there is some power imbalance, where threat of discharge may be used. However, this appears to be conducted in a person-centred way and is only appropriate where continued prescribing is considered dangerous, for example where there is risk of overdose.

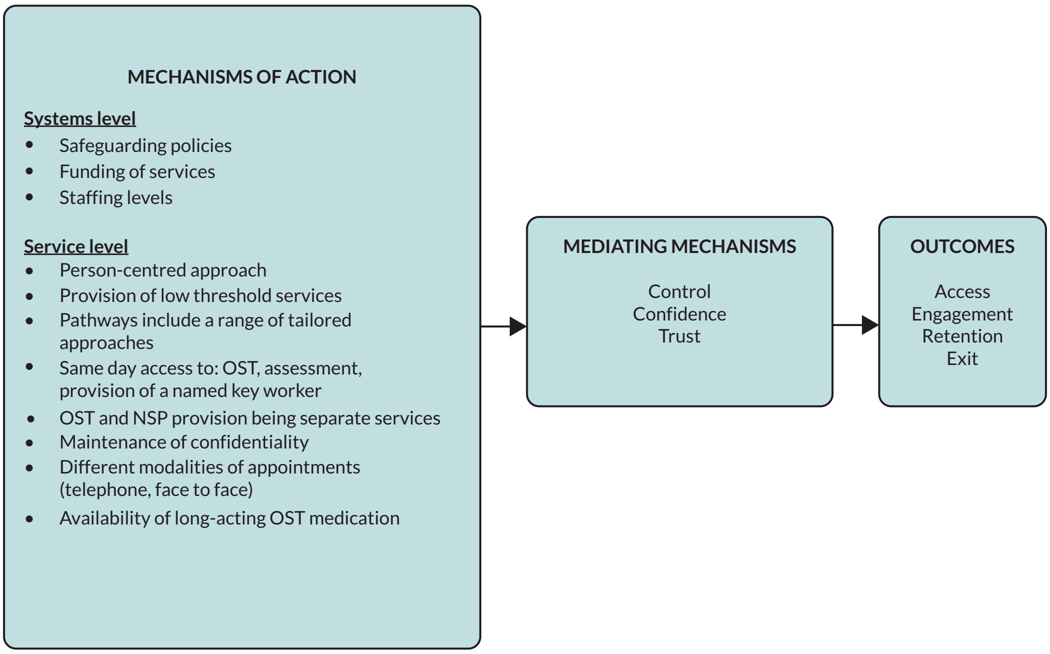


FIGURE 11 Low-threshold tailored services' mechanisms of action and mediating mechanisms.

> *[Y]ou cannot be trauma informed if you operate zero tolerance … because you're not understanding that people are using drugs for valid reasons … to manage unresolved trauma, pain, grief, so to say that you can't do what is going to keep you here … what the evidence told us with high tolerance was it reduced the amount of people losing their lives to overdose.*
>
> *Site C, non-core staff*

There are also other occasions where thresholds must be increased, for example, the need to be on daily dispensing. In such instances, although service users may experience difficulties with this in the short term, this can be viewed as beneficial, particularly by those who are seeking a goal of abstinence and are thus able to navigate their way to unsupervised weekly pickup relatively quickly.

It is also important that NSPs are provided via a low-threshold approach. There is evidence that unrestricted access to NSP equipment can empower service users, giving them a sense of agency in their drug use and in their ability to stay safe. This may be facilitated by a wide range of equipment being made readily available.

> *[A]ll our [NSPs] are low threshold … very easy for people to access … We have [a large number of] pharmacies in [Site C] that provide injecting equipment and all those pharmacies allow people to walk in, to register and to access equipment immediately.*
>
> *Site A, staff*

An additional facilitator to a sense of agency regarding choices to use drugs while being prescribed OST is the confidentiality of NSP services. For example, in site A, people are provided with the equipment they need, and confidentiality is maintained due to OST and NSP provision being separate services and with strict guidelines about maintaining confidentiality within these different services. This can mean that service users do not fear potentially punitive consequences of any transgressions, and thus this increases the likelihood of optimal engagement and retention with NSP services.

Suboptimal provision of low-threshold tailored services

There is evidence that service users may feel that they lack the control to meet even the most basic of thresholds, particularly those service users who feel they have little to no control over their illicit drug use. For some, even though they do not fear discharge due to their ongoing illicit drug use, the high threshold of a daily pickup dispensing arrangement is intolerable and may result in unsuccessful treatment exit. This may be a recurring cycle for many. Indeed, where service users are able to achieve weekly dispensing, sanctions for failing a drug test can mean that weekly pickup may be withdrawn, and service users put back on daily pickup. There is evidence that even service users who are struggling to control their drug use may benefit from infrequent dispensing arrangements, especially where they can also receive more intense support from staff. This approach can be facilitated, and welcomed by service users, if the contact with staff is flexible (e.g. involving telephone appointments as well as face to face). Alternatively, making long-acting buprenorphine (buvidal) more readily available could also reduce the barriers associated with daily dispensing. Service users may be maintained on an OST prescription on a fixed dose and for longer than they would like. Staff fears over potential overdose for service users whose OST is reduced could be a reason for service users being discouraged from reducing their dose. Furthermore, when attempting to achieve optimal dosing, staff may push the option of dosage increase, which is not a positive experience for some as they may feel stuck on a particular dose.

> *There's a sort of safety first view sometimes about shared care … they're kind of safe, so let's just keep it safe and don't go down the riskier path of getting them off of methadone.*
>
> *Site A, non-core staff*

Regarding the provision of residential rehabilitation, it appears that sites A and B offer a pathway to abstinence-based treatment; however, for many staff and service users, stringent requirements (e.g. obtaining the necessary funding and needing to demonstrate a prior period of abstinence) are considered as a barrier to entry. Financial constraints and staffing issues may make it difficult for services to adapt to ensure that services are provided with flexibility. Furthermore, limitations with budgets and capacity can force some third-sector organisations to impose higher thresholds than they would like to.

Mechanism: service users have access to those involved in their care

Ensuring that service users have efficient channels of access and opportunities to take control and engage with core services and other services is essential for the facilitation of service user empowerment and agency regarding their treatment. Multiple referral routes to core services are important, and self-referral appears to be a particularly important and highly valued route. Direct access to treatment and services can engender self-efficacy, confidence and thus empower service users, leading to improved access to and engagement with treatment (*Figure 12*).

Optimal provision of service user access to those involved in their care

Across the study sites, there is evidence that self-referral to OST and NSP provides service users with the agency to engage with services when they are motivated to do so. There is evidence that the mechanism of self-referral may increase the reach of services to include those with unmet need.

> *[A]ccess to services is fairly positive … we are community-based, self-referrals are taken … that's how the vast majority of our caseload came to us. We have teams pretty spread throughout [site C] …we were able to demonstrate … really quite clearly evidence quite a high degree of uptake and previously unmet need.*
>
> *Site C, manager*

There is also evidence that, for self-referral to be effective, service users must have a certain amount of self-efficacy to engage while also having the confidence that the service can reliably provide the service that they need in a timely fashion. As well as offering self-referral routes, optimal service provision should also offer multiple routes of access (e.g. social work, criminal justice and third-sector addiction services). Referral from NSP to OST is a route that may need developed across the sites, as this may be able to improve reach to those with unknown and unmet need. In addition, for the need to develop referral routes from NSP to OST, access to pharmacy prescribing may be valued by service users, yet none of the core services in this study offered this. Although pharmacy prescribing may be supported in theory, it is suggested that it would be difficult to provide given restricted budgets, especially where provision using the current pathway would be considerably cheaper to deliver. It is also suggested that in order to make this work, there would need to be the building of an effective partnership between OST services and pharmacies, with appropriate funding to offset additional costs.

Multiple routes of access can increase choice and agency and thus empower service users, particularly where these referral pathways provide unrestricted re-entry to treatment for those who have previously disengaged. Regarding onward referral from core service to other services (e.g. mental health services and housing support services), it is not always clear that there may be the option of self-referral to these services. In such instances, it is important that there are streamlined channels of communication between these services (see the *Context of knowledge and communication (informed decision-making)*) to advocate effective access to these services on behalf of the service user. It is also likely

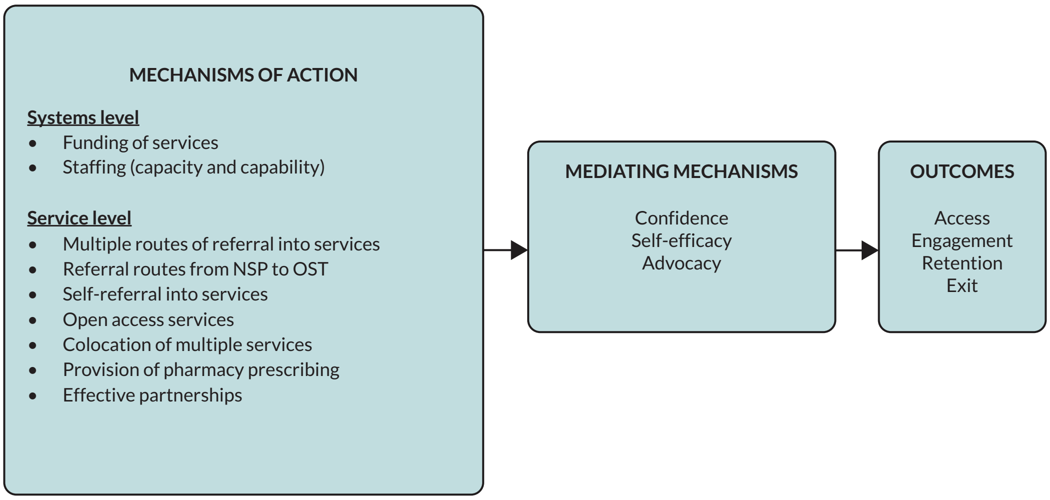


FIGURE 12 Mechanisms of action and mediating mechanisms of access to those involved in delivering care.

that effective advocacy is an important mediating mechanism to facilitate increased access and engagement with services, particularly for those service users who may have lower self-efficacy.

There is evidence that sites provide direct access to a prescriber to some extent. In site A, for example, the keyworker is the prescriber and will negotiate optimal OST dosing with clinical oversight by a GP. Site B, by contrast, has on-duty prescribers, who may be different on any given day. The keyworker sits between the prescriber and service user, co-ordinating dosage changes, etc. In site C, service users are allocated a prescriber and a case manager, and decision regarding treatment is based upon negotiation between the service users, prescriber and case manager. Where it is not possible for them to see their allocated prescriber, they have the availability of an on-duty prescriber. However, there is evidence that while access to a prescriber is important, service users require the same level of access to other staff and services who can do more in-depth and wider work (e.g. brief interventions). As evidenced in site B, an optimal service is likely to provide a 'one-stop shop' where multiple staff and services are colocated and directly accessible. In services where colocation of a range of services is not available, service users would value the convenience its provision could deliver. Across the study sites, but to different extents, there are examples of an open access policy where service users can drop in and request to see their care manager or prescriber. Where capacity is available, this can often be accommodated, and this appears to be an important mechanism to deliver access and continue service user engagement and retention.

Suboptimal provision of service user access to those involved in their care

Although self-referral is an important mechanism driving improved access and engagement for service users, there are some limitations on the services' ability to provide same-day access to OST and, in some cases, access to a prescriber or key worker. For example, in site A, a shared care model can sometimes mean that same-day access following self-referral can be delayed due to the need for GP involvement in sanction referral and prescribing decisions. In sites B and C, limitations in the number of prescribers available (see context of resources and demands) further limits access to same-day prescriptions. In sites B and C, duty prescribers mitigate this issue to a certain extent, but this can be at the expense of being able to deliver a more nuanced and person-centred approach. For example, it is noted, by a commissioner in site B, that duty prescribers tend to limit their input to crisis management rather than to focus on any in-depth work. In addition, it is possible that therapeutic relationships may be less likely to develop in these situations.

Although core services offer self-referral, there appear to be limited opportunities for service users to self-refer to other services. For example, across all study sites, services such as mental health require referral from core services, with no option for service users to self-refer. A commissioner in site C supports the advantage of service users having direct access to referral for wider needs such as mental health assessment. It is suggested that this could relieve some pressure on OST prescribing services, who often take the brunt of wider unmet need in the community, as they have open access to service users. This means that core service staff may be overburdened attempting to address needs that they may not be best placed to provide while signposting service users to the appropriate care. Although staff do advocate on the behalf of service users to signpost and link them into other services, this is not always effective or efficient. For example, across the study sites, staff liaise with mental health services to facilitate appointments for service users, but waiting lists are lengthy, particularly for people not in crisis. While core service staff often advocate on the behalf of service users, there is little else they can do other than provide support. Channels of communication between different parts of the health system appear to be difficult, with staff describing being in a battle to get people referred to receive other services.

Staff turnover can be problematic for providing a reliable, continuous access to care. It can take time for service users and staff to develop and maintain a trusting relationship and to establish a way of working that suit both parties. It is also suggested that an ageing cohort of people who use drugs may mean that such people have become inured and thus disempowered by their experience of suboptimal access to treatment and support. There is an understanding that current services may not be reaching an ageing cohort of people who are disillusioned by services due to negative experiences with previous treatment.

> *[D]rug-related deaths … that whole element of an aging cohort of people who use drugs … I actually think it's just that people have given up, they've been asking for help for years and years and years and years and it's been, Nope … So I think people are just like, Well, there's no help so what's the point?*
>
> *Site C, non-core staff*

It is accepted that informing people of service improvements could be a good strategy to reach this cohort. It is suggested that the MAT standards in Scotland may be an important mechanism for improvement but that resources will be required to make the necessary changes.

Context of self-esteem and respect (identity and belonging)

Findings from the RE indicate the importance of the context of self-esteem and respect. This builds upon the IPT context of 'stigma' developed earlier. Our subsequent analysis, leading to a RPT, suggests that optimal service delivery can be achieved and understood with reference to the following two main mechanisms in this context: staff recognise the importance of confidentiality and a non-stigmatising approach; and services users are supported to develop strengths-based competencies, recovery capital and self-esteem.

Mechanism: staff recognise the importance of confidentiality and a non-stigmatising approach

Confidentiality and a non-stigmatising approach are essential for fostering and maintaining self-esteem and respect among people using OST and NSP services. This can lead to positive relationships, increased confidence, trust, and thus engagement with, and retention in, services (*Figure 13*).

Optimal approaches to confidentiality and non-stigmatisation

There is evidence of some excellent areas of practice, especially in terms of a staff commitment towards a non-stigmatising and understanding approach. Tolerant, compassionate and supportive approaches are facilitated by an understanding of the importance of moving away from a zero tolerance policy (abstinence) and towards the inclusion of harm reduction approaches. A policy of non-judgemental understanding towards honesty from service users is especially valued. This ensures that there are no unsubstantiated and hasty reactions to any possible duty of care issues.

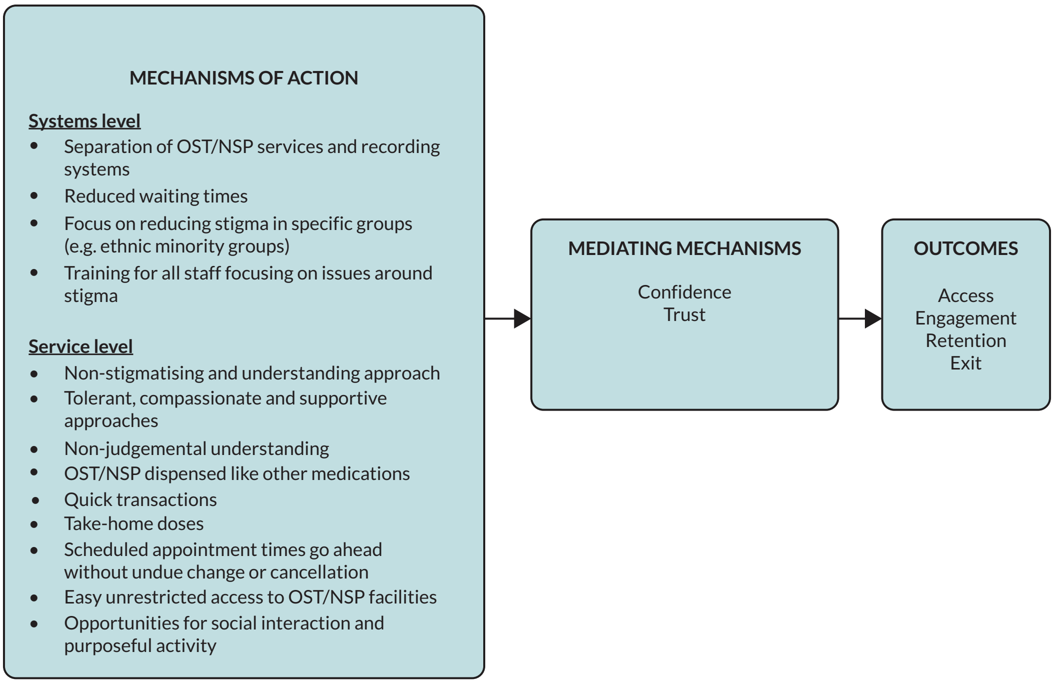


FIGURE 13 Mechanisms of action and mediating mechanisms of confidentiality and non-stigmatisation.

It is also recognised that a non-judgemental approach can lead to positive therapeutic relationships, where service users are more likely to trust staff and be more open about their wider goals, needs and preferences.

> *I think an optimal service is a service that you can walk in and you feel welcomed … I like to think we provide that.*
>
> *Site C, manager*

An important factor in maintaining this is that scheduled appointment times go ahead without undue change or cancellation. It is also important that there is an easy unrestricted access to OST and NSP facilities.

There is evidence that staff maintain service user confidentiality, especially regarding information sharing with the police, which is viewed by staff as very important to both encourage service users to engage with the service and also to trust the service. Within an environment where a confidential and non-stigmatising approach is evident, there appears to be an understanding between staff and service users regarding the expectations of each other in the treatment process. This fosters trust, evident by how service users may be happy to be honest about their concurrent drug use without fearing negative consequences.

Regarding dispensing, arrangements whereby OST medication and/or NSP equipment is dispensed like other medications are perceived as less stigmatising. It is also suggested that a quick transaction is preferred and is less stigmatising if the medication is ready for the customer on arrival. There is additional evidence that moving from the supervised daily consumption of OST to a take-home dose of methadone or long-acting dose of buprenorphine is experienced as less stigmatising. Nevertheless, where daily dispensing is found to be non-stigmatising, it can also be viewed as a positive experience. For some, daily supervised consumption (especially where no other therapeutic activity is available or desired) can be a positive daily routine that provides some much-needed social interaction and daily purpose.

Sites vary regarding whether OST and specialist NSP services operate in ways that ensure confidentiality. In site A, OST and NSP services are entirely separate entities, and although in the same building, both services have entirely separate staff and different entrances/exits, thus maintaining confidentiality. The separation of recording systems is also important as this ensures confidentiality since the staff from both services cannot access information held by the other service.

Suboptimal approaches to confidentiality and non-stigmatisation

There is an understanding, at the commissioning level, that stigma is an ongoing issue that needs continued improvement as there are some service users who continue to feel disrespected. There is also some evidence that some service users are not happy with the level of confidentiality offered.

Where key workers have adopted what is perceived as a judgemental and untrusting response towards service users, this can result in unwanted changes being made to the treatment that they receive (e.g. withdrawal from OST). This can lead to feelings of anger, betrayal and mistrust and thus contribute to the potential breakdown of a therapeutic relationship. It is also suggested that waiting times for treatment may be felt by service users as stigmatising and that addressing this will help to further reduce feelings of stigma that may still exist.

Despite the positive work that has been done around stigma, it is possible that services are not always able to adequately resolve issues regarding the fear of stigma among some minority groups. It is suggested, for example, that minority ethnic groups may experience stigma more severely, which can present as a significant barrier to engagement for those groups, especially if they view anonymity and confidentiality as problematic if they engage with the service.

There is evidence of the experience of enacted stigma in OST and NSP dispensing environments. A lack of anonymity when picking up OST medication is cited as a potential barrier to engagement and retention in treatment. For example, a service user suggests that the process of picking up his methadone in a pharmacy made him feel less ‘human’ and more like a ‘parcel’ going through a delivery line. The service user continued the postal analogy to suggest that the lack of confidentiality and anonymity. While pharmacies may do their best to keep supervised consumption discreet via private consultation rooms, this can still be perceived as stigmatising when visiting the pharmacy.

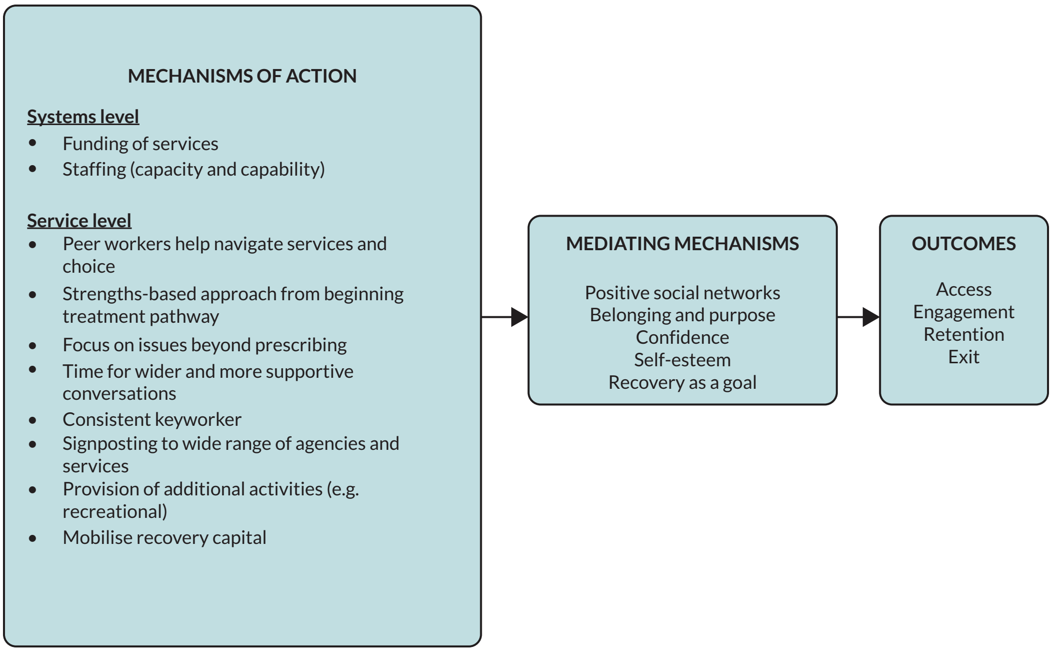
In some study sites, the OST and specialist NSP services are housed in the same building without separate entrances and exits for the two services and with both services delivered by the same staff. This can cause problems with maintaining confidentiality. For example, in site B, there appears to be a permeability of information between the two services, which is at the discretion of staff.

> *If someone was in treatment, they are separate services, so the notes wouldn't correlate. However, if I knew someone was in treatment, we have a bit of a structure to what we ask about when they're in the needle exchange, types of interventions like that are really opportunistic. So you kind of gauge it on the response you'll get, and a lot of people just want to be in and out … I guess the last thing I want to do is scare them off from coming back to the needle exchange. So it's really about getting a bit of a knack for what you can get away with.*
>
> *Site B, staff*

The provision of training for staff focusing on issues around stigma was emphasised as important, given the enduring problems in this area. There is evidence, that some service users may still experience stigma, particularly in non-drug specialist treatment settings, for example, accident and emergency, general practice surgeries and general pharmacies, suggesting the need for education and training on a wider scale. There is an understanding at the commissioning level that this is something that needs to be resolved. Nevertheless, there is some evidence from other service staff and staff that there is not currently any formal or widespread training on stigma or how to work effectively with people who use drugs. Therefore, it may be beneficial to deliver stigma training to staff of external organisations as well as core service staff.

Mechanism: service users are supported to develop strengths-based competencies, recovery capital and self-esteem

If service users are supported to develop strengths-based competencies, recovery capital and self-esteem, this can lead to the development and maintenance of positive social networks and a sense of belonging and purpose. Recovery as a goal may thus be possible, leading to engagement and retention with services and the increased likelihood of successful exit from treatment and support (*Figure 14*).



MECHANISMS OF ACTION

Systems level
- Funding of services
- Staffing (capacity and capability)

Service level
- Peer workers help navigate services and choice
- Strengths-based approach from beginning treatment pathway
- Focus on issues beyond prescribing
- Time for wider and more supportive conversations
- Consistent keyworker
- Signposting to wide range of agencies and services
- Provision of additional activities (e.g. recreational)
- Mobilise recovery capital

MEDIATING MECHANISMS

Positive social networks
Belonging and purpose
Confidence
Self-esteem
Recovery as a goal

OUTCOMES

Access
Engagement
Retention
Exit

FIGURE 14 Mechanisms of action and mediating mechanisms of developing strengths-based competencies.

Optimal support to develop strengths-based competencies

It is widely recognised across the study sites that, while it is the role of staff to support and inform service users, and to provide choices for them, ultimately, it is the responsibility of the service user to choose and to engage with treatments and services that suit their needs. Peer workers are seen as instrumental in helping service users navigate their choices. It is also understood that service users should be supported to develop self-confidence and responsibility in their own treatment where possible. Evidence suggests that staff are committed to provide support beyond OST prescribing to support service users to develop strengths-based competencies. Where staff have time to take this approach, it has been successful, with a range of different modalities of consultation (face to face, online and telephone), helping to meet individual need. There is some evidence that services are committed to incorporating a strengths-based approach from the beginning of the treatment pathway where possible.

> *I'm looking at introducing strength-based approaches … talk to people about what are their strengths, what are their assets … if we do it from a deficit-based model, which we've been doing for decades, you can't expect people then to suddenly start feeling happy about themselves … all you're doing is accentuating and cementing in the fact that they are in the eyes of community, bad people.*
>
> *Site B, commissioner*

There is recognition that recovery as a goal should be available at every stage of treatment and service users should have recovery-orientated services available, with staff being proactive in offering this in a non-judgemental way regardless of current treatment goals (e.g. abstinence vs. harm reduction). To deliver a recovery-oriented approach, it is recognised that it is important to ascertain and mobilise any recovery capital that service users may have, particularly for those people with limited existing support.

Service users suggest that they would like more time spent focusing on issues in their lives that go beyond prescribing, especially regarding an increased likelihood of being able to attend social support services out with the core service. The development and review of care plans/case management to identify service user needs in terms of the potential for recovery capital and self-esteem building and positive social networks are important mechanisms to ensure that this takes place. There is some evidence of good care plan reviewing with a focus on activities beyond OST prescribing, especially where there is a consistent keyworker.

It is understood, by staff, that signposting service users to a wide range of agencies, services and activities is an integral part of service user's recovery pathway and, once engaging independently with these other services, provides service users with a sense of control and responsibility of their own recovery. There is evidence of successful signposting by some staff. In addition, outreach and peer support services can facilitate access to other agencies and services.

Suboptimal support to develop strengths-based competencies

The experiences of some service users suggest that they can feel helpless and underconfident when interacting with services. This may be compounded by staff not having enough time to devote to wider and more supportive conversations with service users due to workload (see the context of resources and demands). Furthermore, services which are very directive (e.g. insisting on abstinence) and lack the ability to be nuanced regarding treatment choices may be contributory factors towards low self-esteem, feelings of purposelessness, isolation and lack of hope among service users. It is suggested that this may be a mechanism driving avoidable drug deaths.

There is evidence from interview data to suggest that there is a need for more psychosocial support to be available for service users and more community support mobilised. It appears that there is a current priority in some sites for the delivery of pharmacological support over non-pharmacological support. Restrictions of staff time and resources mean that care plan reviewing for activity beyond prescriptions is limited. Staff suggest that there should be more robust case management, especially regarding the need to increase recovery capital.

It is suggested that core services used to offer opportunities to engage in 'normal' activities (e.g. recreational), but this no longer occurs. As a result, service users cite 'boredom' as a barrier to their recovery from illicit drug use; thus the lack of additional activities currently offered by the service may act as a barrier to any future (re)engagement with treatment.

> *The [core service] used to do, you know, kayaking and stuff like that, normal stuff … it's important for a human being to be doing something and not to be just there. Of course people will relapse … Human beings get bored and then, you know.*
> *Site A, service user out of contact*

There appears to be a lack of funding which could be allocated to support the addition of activity that could encourage increased recovery capital, self-esteem and a sense of belonging for service users. There has been some attempt within current service provision to do things to help regarding the environment (e.g. investment in social areas). However, financial restrictions are holding services back from achieving optimal results in terms of increasing recovery capital among service users.

Context of knowledge and communication (informed decision-making)

Findings from the RE indicate the importance of the context of knowledge and communication. This builds upon the IPT developed earlier. Our subsequent analysis, leading to a RPT, suggests that optimal service delivery can be achieved and understood with reference to the following three mechanisms in this context: all stakeholders proactively encourage partnership working; a peer network programme is embedded into the core service; and staff have the knowledge and skills required to provide high-quality care.

Mechanism: all stakeholders proactively encourage partnership working

Partnership working is recognised as being important and required between a wide range of services. Where commissioners and service managers proactively encourage partnership working with other allied services, this may encourage effective communication and knowledge sharing, leading to sustained partnerships and streamlined signposting to essential alternative services (*Figure 15*).

Optimal partnership working

Recognising and building upon the importance of exceptional individuals in forming effective knowledge and communication between partners, services can move towards creating service-level mechanisms and resources to ensure that the core service can maintain and benefit from excellent and sustained partnership working. A particular

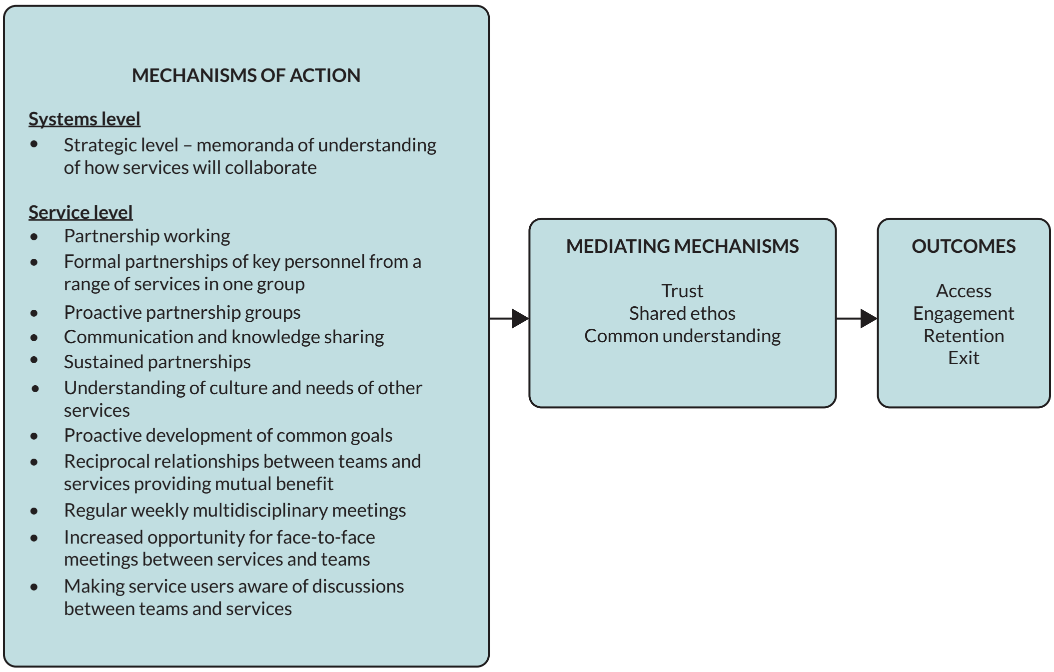


FIGURE 15 Mechanisms of action and mediating mechanisms of partnership working.

strength in one study site is the formal partnership of key personnel from a range of services in one group: this group has the position and the power to make meaningful changes to service delivery. There are many examples of good partnership working. In one site, for example, key factors involved in fostering good partnerships appear to be the proactive development of common goals and good communication (e.g. between addiction service and BBV clinics. which result in a BBV nurse attending the core service for testing and treatment).

> *It's understanding the common goals and good communication. The HIV outreach team is a fairly good example ... being proactive and positive ... appreciating the different roles and working together to common goals. I think when the BBV teams obviously us helping them get into treatment. And them helping us keep people in treatment ... it's kind of you know win, win really.*
>
> *Site C, manager*

Another site has facilitated the development of an effective partnership between the addiction service and mental health services, and there is some evidence to suggest that this provides a reciprocal relationship, where the complex needs of those with multiple comorbidity can be effectively engaged and managed. Some key factors towards developing this partnership included: a proactive approach, good communication and regular weekly multidisciplinary meetings to discuss common care-based issues. There is an example of an excellent, very close working partnership between the core drug service and mental health services in another site, with better service delivery resulting in mutual benefit. There is also some evidence of strategic-level efforts to encourage better knowledge and understanding between services (these are sometimes manifested as memoranda of understanding being agreed between services). This could go some way to developing a shared ethos between different services and alleviate tensions regarding organisational cultural differences (e.g. harm reduction vs. abstinence focus).

Suboptimal partnership working

Partnership working is not always ideal or optimal. There are examples of a lack of understanding between the agencies, for example, where there is a separation of delivery of initial assessment and subsequent ongoing care. There is also a lack of communication which appears to limit the ability to develop good partnerships and may even lead to negative views of organisational culture. While partnerships exist, there is evidence that some would appear less than optimal.

> *I'm going to be honest, there's not great partnership working between addictions and mental health ... that's been going on for years and years, a grey area. Who holds the risk?*
>
> *Site B, manager*

A lack of effective partnerships with mental health services, for example, appears to create significant strain on services that have a limited capacity to deliver mental health support (e.g. services with nurses who are trained in mental health).

Furthermore, problems with communication between services is a factor involved in suboptimal partnership working. Indeed, partly due to no close relationship existing between some services, there appear to be problems with communication between services that can cause significant delays which impact upon access and engagement. A contributing factor to the lack of a close working relationship may be the fact that communication may not be face to face. This suggests that there should be some attempt made to bring staff from different services physically together at least on some occasions.

According to a service user, the lack of communication between the core drug service and their GP may have fatal consequences for them. A further example from a service user highlights a gap in communication between core drug services and general healthcare delivery. They report finding it difficult to seek healthcare support, chiefly because of the lack of communication between the core drug services and their GP. Miscommunication between services can also impact on service users' treatment. Furthermore, when services do communicate with each other to make decisions about treatment and support, this is not always communicated with service users. This can leave service users feeling powerless and disenfranchised. While some partnerships are required to work closely together at key times in a service user's treatment journey, staff within the core drug service can vary regarding how well they establish and maintain close working relationships. The view of a non-core drug service staff member is that some core drug workers are better at establishing communication with their service. There is also some evidence that third-sector organisations may have less of a voice than statutory organisations. It is argued though, that third-sector organisations understand the need of those seeking access to their services best.

Despite the examples of optimal partnership working in specific areas and at specific times, a service user suggests that a much larger range of different services need to work together more effectively. Furthermore, in their view, an optimum service would be one that was well-funded and centrally co-ordinated.

Mechanism: a peer network programme is embedded into core drug services

A peer network programme of people with lived and living experiences of drug use, embedded into core drug services, is recognised as an important mechanism for mobilising and communicating peer knowledge, leading to optimal service delivery. An optimal service is likely to ensure that peers are embedded within each part of the pathway, and where this is taking place already, this should be supported and resourced to ensure that this valued addition to the core service is sustained (*Figure 16*).

Optimal peer involvement

The need for peer-delivered support and care is well recognised across all study sites, with much of this support seen as fundamental. There are examples where peer workers are formally involved across a wide range of services and groups and there do appear to be some formalised approaches to appointing and employing peers. There are also core-funded peer co-ordinators and peer team leaders, and it would seem to be easy to create a job description and appoint peers wherever and whenever required. There is some evidence from one site that an embedded peer involvement programme is in the early stages of development. It can take a great deal of effort and time to establish such an approach, which may develop flexibly and organically. This is at odds with the more structured approaches usually taken when implementing other parts of the core service. There are already some examples of how this can reduce the burden on core drugs service staff. In addition, peer involvement at the community level appears to facilitate effective transition of service users back to community-based services and increased feelings of belonging and purpose.

The hands–on, practical knowledge that can be shared with service users is highly valued and can be central to providing a service that works for those who use it, as recognised by a peer member of staff embedded within an allied service within one of the study sites.

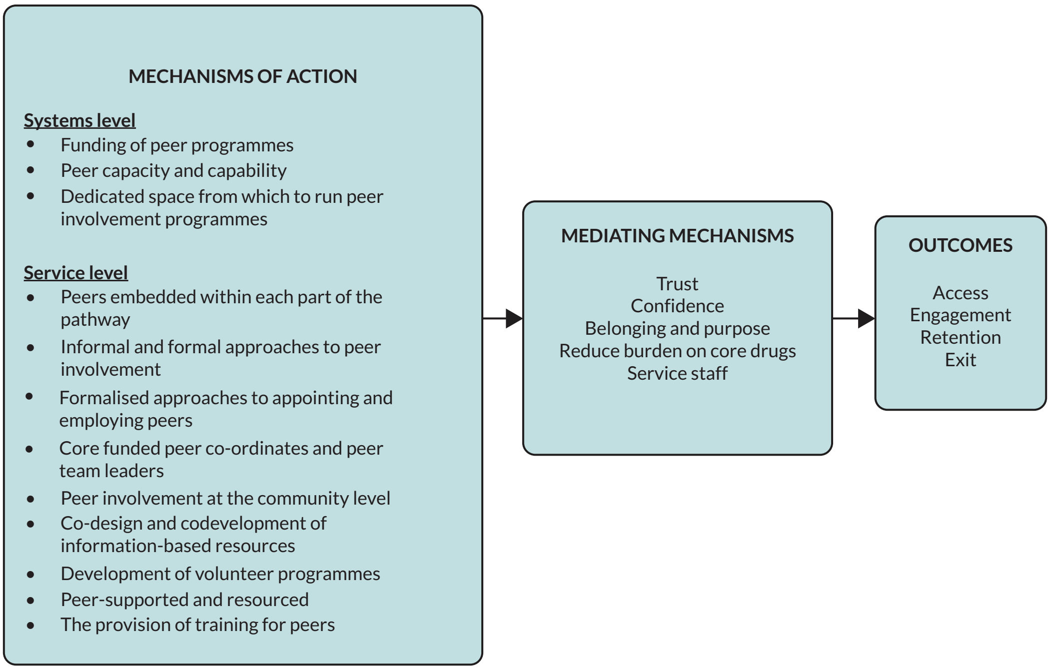


FIGURE 16 Mechanisms of action and mediating mechanisms of peer involvement.

> *I was running conversation cafes in the women's services and it was just really informal, me going in, getting to know the women, talking about harm reduction, safer injecting, overdose awareness ... one of the women who's now moved on from our services was like, Oh God I just wish somebody had told me this 20 years ago ... she now has irreversible damage to her legs, she struggles with really bad back pain and it's all through poor injecting practices ... a lot of the harm reduction advice that goes out is developed by professionals so it's not necessarily that meaningful, go slow, make sure that you're not mixing your drugs; that's not relevant for people who've been using drugs for 25 years and are using 500 Valium a day on top of their methadone and alcohol, it's alienating.*
>
> *Site C, non-core staff*

Peers can be involved with the co-design and codevelopment of information-based resources, ensuring that the information included is accessible and meaningful to service users. The importance of peers is recognised by a staff member from other services, not least is the ability of peers to be able to speak a common language and thus form good, trusting and effective working relationships with service users. Peer workers may break down a power imbalance that exists with drug workers, which may want to push an agenda of recovery. By contrast, peers may present the face of recovery, which may or may not motivate people to become free of drugs and OST substitutes.

The provision of training for peers is essential and there are examples of this being provided. For example, peers in one site have access to a wide range of training and support opportunities, and that effective training of peers in another site has led to the subsequent successful deployment of peer-led Naloxone programmes, which is argued to extend their reach to a wider audience (perhaps, those not regularly engaging with services and who may be at a greater risk of overdose).

Suboptimal peer involvement

There is evidence that the voice of peers is an important consideration for commissioning decisions and in monitoring what is and is not working for service users. Nevertheless, many issues have delayed the further development of a service user council and peer network program (such as non-core work around further grant funding and the recommissioning of non-core services). Despite the benefits of peer involvement, there is evidence of some disinvestment in some areas of core services and thus limited access to peer workers.

> *We don't have a peer training programme, and this is something I would love to have, but with commissioning, the peers got kind of taken away from [Place]. We used to have our group of peers, and that was kind of fantastic, but now we don't.*
>
> *Site A, manager*

However, some of the constraints placed upon peer programmes can limit the advantages of ideal and organic peer to peer support and communication. For example, peers often work within clear boundaries that limit their input and can only work with service users after a risk assessment has taken place. While there may be able and willing volunteers (although more are required), and capable and willing co-ordinators, there appear to be further constraints regarding the capacity to employ dedicated peer workers and a suggested lack of dedicated space from which to run peer involvement programmes. In addition, it is suggested that peer workers may be unprepared for their role and may lack sufficient training and support.

Mechanism: staff have the knowledge and skills required to provide high-quality care

The knowledge and skills of all staff working in and supporting the delivery of OST and NSP are an important mechanism for optimal service delivery. Staff regularly trained and supported in developing and maintaining their job-specific knowledge and skills ensure optimal levels of staff competency, meaningful and accurate communication and service user trust (*Figure 17*).

Optimal training and support

Across the sites, there are standard competency-based induction for all new staff, which ensures that staff understand issues around the treatments they are providing. Staff are also encouraged to shadow more experienced workers and to discuss issues with line managers. Staff may also be supported to undertake online, weekly e-learning courses to improve knowledge and competencies across a range of drug-related issues. The importance of staff training and the

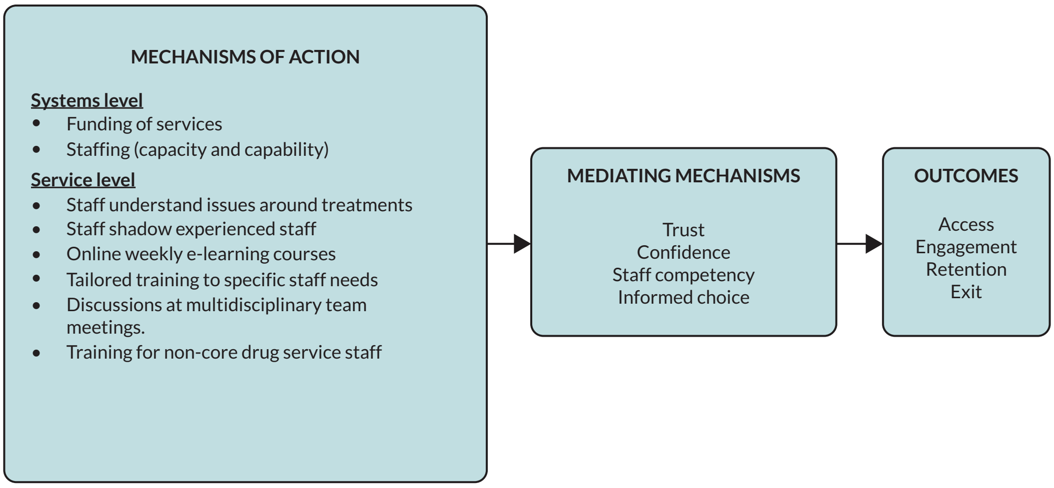


FIGURE 17 Mechanisms of action and mediating mechanisms of training and support.

wide range of competencies required to deliver tailored and high-quality care are demonstrated with reference to what occurs in an initial assessment. Where training is provided, it is valued, especially by new staff, and the training they receive can be focused on areas of specific need and interest. Knowledge and confidence for decisions can also be reinforced via case discussions at multidisciplinary team (MDT) meetings.

If staff are highly trained and knowledgeable regarding the delivery of treatment, they may be more likely to be capable of conveying the necessary information for service users to make informed choices about their treatment. A large variety of training and support is available across the study sites, both within and across a wider range of services and professions. (It is noted that some professions and groups working in drug and alcohol support have their own requirements for training and revalidation, e.g. nursing, social care, etc.)

> *The training options are legion … It can be outside trainers but some of those have been in-house so peer to peer. We've done training on Motivational Interviewing; phases of change which are two key techniques we work with in a psychosocial session. So yes I've been very pleased with the amount of training and support that we receive.*
>
> *Site A, staff*

One of the aims of training within a service is to deliver more consistent treatment, care and support and, beyond this, to improve intra-agency collaboration and understanding. Staff in the core service, for example, provide training to non-core organisations such as GP surgeries and pharmacies: this also helps to build relationships. Shared training across several professions, services and agencies is suggested as the optimum approach. This can give opportunities for learning about specific topics while also helping to foster and maintain relationships and intra- and interagency channels of communication. Service users emphasise that they can be reliant upon and trust the knowledge and skills of highly trained staff to help them choose and navigate treatment choices and, furthermore, that they can find core drug workers as highly effective and inspirational.

Suboptimal training and support

Despite good examples of training and support, as described above, difficulties in recruiting highly qualified and experienced staff mean that there may be a dwindling pool of knowledgeable personnel to deliver training and support. There is acknowledgement that more training is required but that high workloads and being short-staffed limit the opportunity for this. Due to staff workload demand, there is not always enough time to meet training and support needs, and where support is available, this is often ad hoc.

> *If someone is not sure I will take the time to try and teach them … we've had a lot of new staff come in and I don't feel they have enough time to get all the training that they need … I think overall training has been a little bit difficult because we are so short staffed.*
>
> *Site C, staff*

There are some specific areas that appear be lacking. An important gap concerns the lack of training and support for staff in dealing with service user trauma; this is especially important, given that there may be a perception among staff that many service users may enter treatment with unresolved trauma. The staff burden of attempting to provide knowledgeable support and care is exacerbated by a lack of training and very long waiting times for specialist mental health support. The view of one service user is that core drug services have been changing in negative ways that call into question the knowledge and skills of core staff. From their perspective, there has been loss of highly skilled staff without replacement. Indeed, their view is that any new staff are either underskilled, inexperienced and/or unmotivated.

Context of goals, needs and preferences

Findings from the RE indicate the importance of the context of goals, needs and preferences. This builds upon the similar IPT context developed earlier. Our subsequent analysis, leading to a RPT, suggests that optimal service delivery can be achieved and understood with reference to the following four main mechanisms in this context: recording system(s) are fit for purpose to manage care plan reviewing effectively; a commitment to providing services that facilitate a shared ethos, understanding and responsibility between all key stakeholders; access to a full range of services to meet treatment goals and wider needs; and appointments take account of service user needs and preferences, and staff are given time and resources to facilitate a proactive approach to meet these.

Mechanism: recording system(s) are fit for purpose to manage care plan reviewing effectively

Effective systems for recording and sharing information are important in meeting the goals, needs and preferences of service users for several reasons: they can allow a structured approach to care planning and case management via person-centred information capture; they can offer an information-rich mechanism to manage continuation of consistent care and aid the direction of resources to unmet need; and they can also present as a good tool for management purposes, allowing caseloads and service user progress to be monitored (*Figure 18*).

Optimal use of recording systems

Study sites vary regarding the recording systems that they employ and how well they contribute towards optimal service delivery. There is evidence of optimal practice in site B. Each type of staff (drug worker, GP and mental health worker) currently upload data into one of three recording systems specific to their own specialty, and managers appear to have access to all databases. Managers access data from all three recording databases to draw upon data relevant to case management – this works well in terms of successful facilitation of supervision, reflective practice and successful delivery of care plans. The data captured in the monitoring systems can indicate how long service users have been in services, how often service users are seen and how large staff caseloads are. This can help managers to direct effective supervision with staff regarding service user outcomes and any difficulties staff may have managing caseloads.

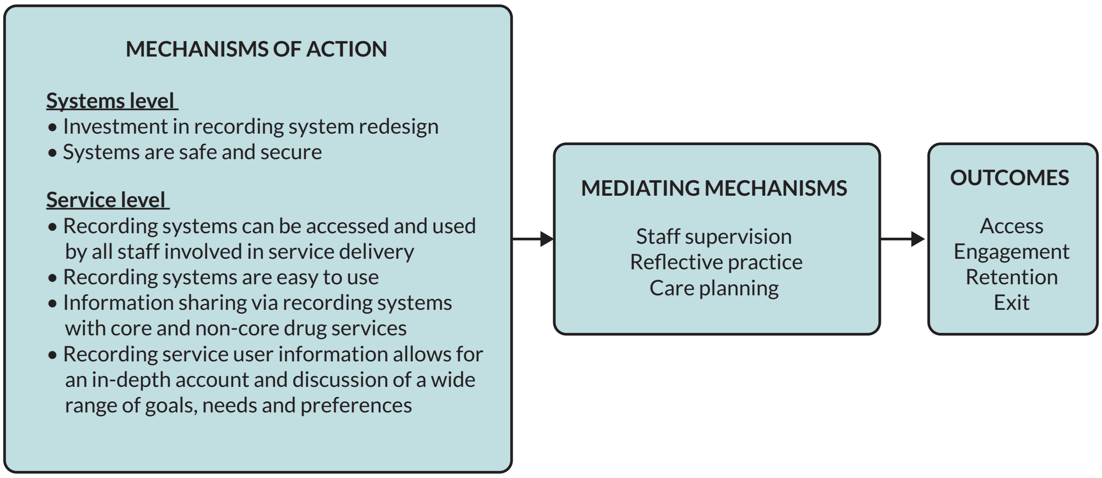


FIGURE 18 Mechanisms of action and mediating mechanisms of recording systems.

> *It's a monitoring tool that gives some idea of severity, complexity and recovery capital … And that allows us- those people who are … lots of complexity, to hold a little bit more into them than the person who might be very straightforward … it's sort of efficient to be able to monitor caseloads, monitoring progress. There's always a special interest in making sure that we are offering a tidy programme for those people and that they're not being allowed to drift. One of the other tools that I use is prescribing reports, so making sure that our dosing levels are within optimal ranges, and our average dose for methadone and buprenorphine is well within the therapeutic range across the consortium.*
>
> *Site B, manager*

Across the sites, there is evidence of optimal practice with the use of recording systems in NSP services. These are highly valued and allow services to identify, track, and react to changing needs, particularly with a transient population within the NSP context; recording systems that allow anonymisation to protect confidentiality are given priority over the need to share information with other services.

Suboptimal use of recording systems

Despite evidence of good practice in the use of recording systems to guide optimal provision within some OST core services, there would appear to be a lack of information sharing via recording systems with allied services out with the core service. There is evidence that there is a loss of opportunity for partner organisations to collect and share important information with core services. However, there are concerns about what information can and should not be shared, particularly regarding confidential or potentially stigmatising data.

> *I remember from the documentation … that they assess people's needs not only on drug and alcohol but also housing, educational needs … but this is never discussed with us … So every agency does their own assessment, and we don't share it … there could be a better way of sharing all the other needs that people might present.*
>
> *Site B, non-core staff*

In one study site, core service staff currently upload the same data into two different recording systems (one is GP -elated and one drug service-related); thus more staff time is spent on this doubling of administrative activity. This additional burden on their time can lead to mistakes and result in less time to concentrate on the development of care planning to support service users to meet their goals, needs and preferences. It also appears that recording systems are not always easy to use and that care planning may not always be properly recorded. Furthermore, recording systems in this site comprise a structured set of questions for initial contact with a shared care worker (SCW), but it is suggested that this does not allow for an in-depth account and discussion of a wider range of goals, needs and preferences. Evidence from another site suggests that the recording of information might not always be accurate and that staff have to spend time trying to capture the correct information. This can be an impediment to treatment, for example, delays in starting service users in treatment. Service users may also have to repeat their histories when they are allocated a new case worker, which appears to be often and may relate to a recruitment and staff retention crisis. There is an understanding and desire to improve recording and monitoring systems in this site.

Mechanism: a commitment to providing services that facilitate shared ethos, understanding and responsibility between all key stakeholders

A shared understanding and responsibility between different services and organisations in the OST/NSP service pathway is important to provide a seamless service user journey, towards supporting service users to meet their needs and preferences and to achieve their goals (*Figure 19*).

Optimal approaches to a shared ethos, understanding and responsibility

There is recognition by staff that the care they provide should be person-centred and that this involves negotiating and agreeing a shared plan which takes account of a person's goals, needs and preferences. There is also evidence across sites of close collaborative working, which facilitates a shared ethos, understanding and responsibility between all people involved in delivering care. In one study site, there is evidence of positive and close formal working relationships between core and non-core services and organisations towards the share goal of improving harm reduction services and access to health care for the homeless population. There is evidence that inter- and cross-agency training/meeting

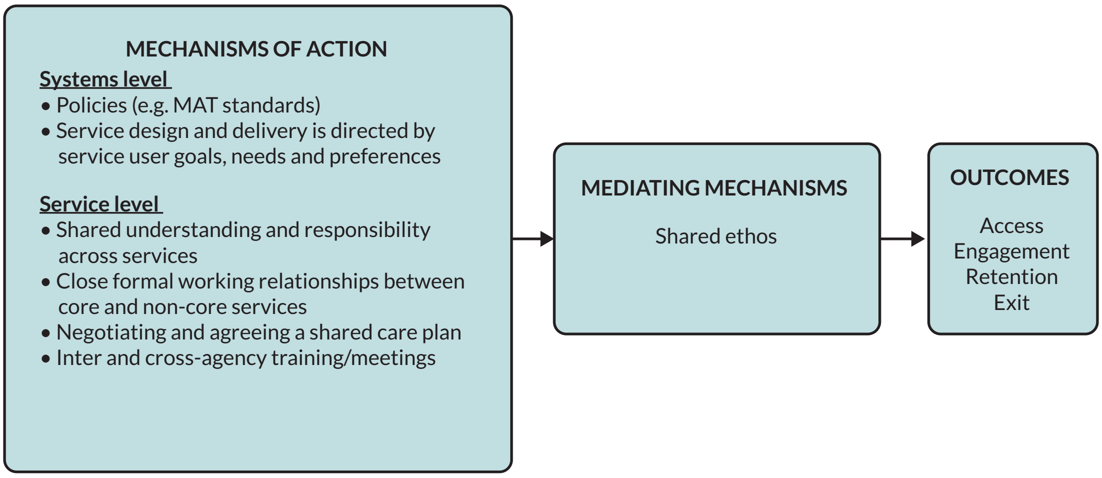


FIGURE 19 Mechanisms of action and mediating mechanisms of approaches to a shared ethos, understanding and responsibility.

takes place and that this can be an important vehicle for sharing and understanding different roles, responsibilities and the ways in which care can be shared across the treatment spectrum. There is also evidence that peers are a good vector to disseminate and facilitate a shared purpose. It is suggested that, in Scotland, the MAT standards may also be an important mechanism to encourage a shared ethos, understanding and responsibility across all staff and services in the OST/NSP pathway.

Suboptimal approaches to a shared ethos, understanding and responsibility

Although there are examples of good practice regarding collaborative working and shared ethos across services, there is evidence that services do not always share views regarding treatments. It is suggested, for example, that NHS services tend to be risk-averse and thus less likely to consider implementing novel approaches, whereas third-sector services may be more likely to consider alternative approaches with an emerging evidence base. It is suggested that the third-sector services are more likely to be directed by service user goals, needs and preferences, which is described as a more 'human' approach. However, the following commissioner suggests that their role is to bring the consortium together towards achieving the same goals, and thus where there may be a need that is not being met by the service, the clinical-led pathway can be modified accordingly. It would also appear, however, that shared understanding and continuity of care can be negatively affected as a result of commissioning decisions. For example, separate organisations in one site were commissioned to deliver assessments and shared care, resulting in a separation of assessment from ongoing clinical care. This separation appears to be a barrier to same-day access to treatment. However, it is possible to remedy this by different organisations finding ways to engage and work more closely together to deliver seamless care that meets service user goals, needs and preferences.

A lack of shared understanding between services can result in problems in delivering person-centred care. Evidence from a service user regarding a lack of shared understanding between a GP and medical staff within the core service caused problems for them in achieving their goals, needs and treatment preferences.

> *So my GP's seen for 20/30 years … she knows me very well and it's like I come and see this doctor [in the core service] that let's say I don't know and I'll go and sit down with them for an hour. Within an hour he's basically telling my GP that I need to be prescribed this or this needs to be taken away, something that I've been taking for five/ten years that needs to be taken away … like in one hour you've just made all these assumptions and then you're telling my GP of how many years.*
>
> *Site B, service user*

Mechanism: access to a full range of services to meet treatment goals and wider needs

Evidence indicates that a range of important services and treatments should be available to meet the goals, needs and preferences of service users. However, it should also be noted that it is not necessarily about the provision of individual services but also a range of delivery pathways. Pathways tend to include shared care (GP/core drug service share the care); statutory service provision (NHS-led services); and services led by the third sector (charitable not–for-profit and other private organisations). However, a distinction can also be made regarding the context within which services are delivered (e.g. a hub system, whereby all services are provided within a 'one-stop-shop' context; outreach services, where specific populations are targeted, and interventions are mobile; and a core prescribing service that refers out to other services). Optimum service provision is likely to involve a combination of these three main service delivery pathways within which specific treatments and services can be optimally delivered (*Figure 20*).

Optimal approaches to the delivery of a wide range treatments and services

Study sites vary regarding their pathways of access to, and delivery of, OST and NSP. Those study sites that offer multiple routes are considered to be optimal in terms of being able to reach a larger number of service users and being more likely to satisfy the preferences of people with diverse needs, thus engaging and retaining a larger number of service users. There are several models of provision for NSP across the sites: specialist site, pharmacy site and mobile sites. There is a wide range of equipment and materials available (clean needles, other injecting paraphernalia and feminine hygiene products, clothing and bedding). There is also access to additional support services (e.g. wound care, BBV testing and treatment, harm reduction advice and referral to OST and other services). There is evidence that specialist NSP sites (in sites A and B) may offer a wider range of equipment and supports than pharmacy can only deliver. In site C, however, specialist pharmacists exist, which facilitates the delivery of a wide range of equipment, materials and wider supports within the pharmacy setting. In all the study sites, there is same-day access to a range of OST medications (methadone, buprenorphine and long-acting bup). The importance of same-day access to OST medications is to ensure that service users can engage with treatment services during periods when they are motivated as this can be short-lived. Self-referral is an access point which can facilitate the optimal delivery of same-day access and thus subsequent successful engagement with services. An important mechanism to ensure that same-day access is optimal for the delivery of an assessment of the goals, needs and preferences of services users to take place over and above the receipt of a same-day prescription.

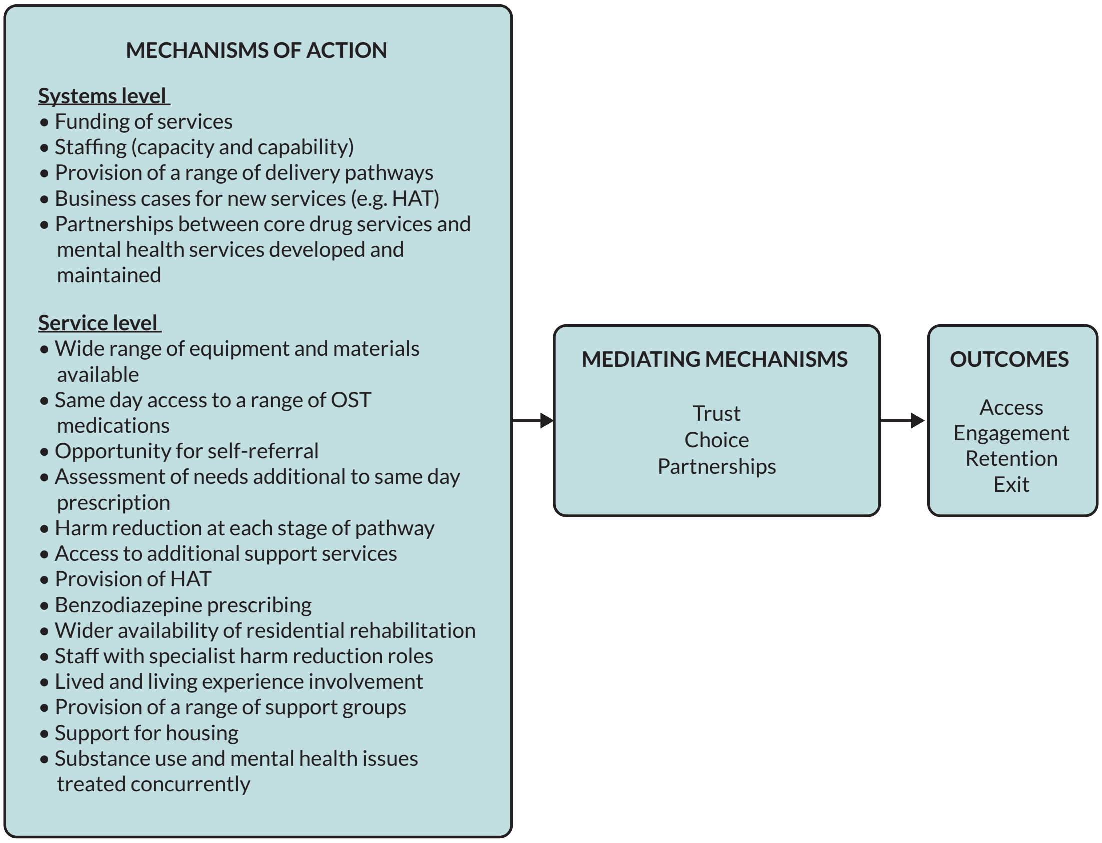


FIGURE 20 Mechanisms of action and mediating mechanisms of delivery of a wide range of treatments and services.

All study sites demonstrated a commitment to the provision of harm reduction advice and intervention at each stage of the OST pathway. In site B, there are specialist harm reduction roles for staff, who tend to focus on harm reduction interventions such as naloxone (and training on its use), sexual health, wound care and BBV testing, support and treatment. This is described as beneficial to the service as it helps focused harm reduction work to happen alongside core prescribing and support. Harm reduction is also a commitment in the provision of NSP. Across sites, specialist NSP services attached to core services tend to provide additional harm reduction interventions over and above advice, such as naloxone provision, BBV testing and treatment and wound care; in one study site, this provision is also available in pharmacy-delivered NSP. A city centre initiative in site C, for example, focuses on wound care, injecting risk, naloxone provision and dried blood spot testing. Site C has benefited from the delivery of naloxone training delivered by peers. The benefit of the lived experience is seen as a particularly helpful mechanism to inform, engage and reach service users. Harm reduction approaches appear to be driven by national strategies. The elimination of hepatitis C, for example, appears to be a guiding force in the drug services commitment to the testing and rapid treatment of BBVs. It would also appear that tackling the drug death crisis is a major motivator in committing to the widespread distribution of naloxone.

Heroin-assisted treatment is currently available in only one study site, and this is as a pilot with limited capacity. Staff suggest that this is a very useful additional treatment, especially for service users who find it difficult to maintain engagement with current established services. Staff would like to see the HAT pilot extended to become an additional a part of OST provision.

In site C, there appears to be a particular problem with illicit benzodiazepine use, including their concurrent use with opiates. There is evidence that over the past 4 or 5 years, some provision has been made for this via benzodiazepine prescribing. However, it is recognised that it is difficult to balance the risks of when to prescribe benzodiazepines and that more evidence and clinical guidelines could assist services to make this a safer, targeted and valuable addition to service delivery.

Residential rehabilitation is an additional choice of service delivery that an optimum service would make available to those with a range of different treatment goals. It is important to note, however, that interviewees in this study emphasise that it is not a single solution to reduce drug-related deaths but rather another tool that services can offer to increase access, engagement, retention and, especially, successful exit form services. Such a service may include abstinence-based services and also lower threshold residential rehabilitation that serves to stabilise people who are not coping in the community, which may help to provide support for a population that are unable to engage with services in the community but without having to meet strict requirements for traditional abstinence-based residential treatment. This exists to a certain extent in site C, but in sites A and B, strict entry requirements related to abstinence remains the only option. Although a range of residential rehabilitation types are available, there is a perception that places should be increased and the availability of funding for individual placements needs to be more widely disseminated.

Staff across the services understand the importance of providing a range of support groups and services [such as psychosocial support, a range of different types of support groups [e.g. women's groups, alcoholics anonymous (AA) and narcotics anonymous (NA)], access to housing support, physical health and structured day programmes] in addition to pharmacological interventions and especially how these can contribute towards service users meeting their short-, medium- and long-term goals. All study sites provide a range of these types of support groups, and where they are provided by core services, service users are free to move in and out of some groups. In one site, there is also an on-site structured day programme which is viewed as a valuable addition to the service. It appears that service users can easily access this service, as well as additional group work sessions, and are fully supported to attend. It is also seen as very important to identify individual goals, needs and preferences in the very early stages of treatment as well as throughout and how staff can encourage progress where possible.

> *[W]e discuss recovery at the initial screening … 'What are your short, long-term, medium goals?' What's their ultimate aim?. And we've got a bunch of services … It might be something that they're prepared to buy in, and I'm not against anyone using any service, particularly if they identify it and want to buy into it. Because I think any service will eventually benefit someone.*
>
> *Site C, staff*

There is an understanding among services that staff should be aware of the additional supports that are available (within and external to core services), which involve developing, updating and maintaining links with services in order to signpost service users quickly and efficiently. It is suggested that responsibility for this tends to rest on core staff; however, it is possible that a more structured service-level approach towards fostering partnerships (covered in more detail in the context knowledge and communication) could improve service provision in this area. A manager in site C suggests that there may be a need for some blurring of tier 2 (third-sector supports) and tier 3 (clinical prescribing) services, where prescribing and a range of supports are available in a single place. A manager highlights the ageing population of drug users and the complexity of the goals, needs and preferences that this population of people may need to be addressed, suggesting that services may have to be more joined up to be optimal in addressing this complexity. A manager from site A suggests that this type of approach is demonstrated by their outreach services that appear to be able to provide more direct access to a range of on-site or already established service-led links to external supports fostered by good partnerships.

Support to attain stable housing is recognised across several sites as important to meet the needs of service users. There is evidence that core services have different housing pathways for people who may need stable accommodation. However, while important, these are limited to supporting people into temporary accommodation. Alternatively, there is evidence that in site C, focused efforts are made to support service users moving from residential rehabilitation to a tenancy (supported tenancy or long-term independent tenancy). This is important because service users leaving residential care can lack the necessary skills to maintain a tenancy or may have lost a tenancy to fund residential rehabilitation, since, in the eyes of the benefit system, residential rehabilitation may become their primary residence.

Regarding the provision of specialist mental health interventions, it is recognised that the cases services manage are complex, often in the form of multiple psychiatric and substance use (dual diagnosis) comorbidity. There is a suggestion that substance use and mental health issues should be treated concurrently rather than the orthodoxy of treating addictions prior to treating any mental health issues. There is also a recognition that partnerships between core drug services and mental health services should be developed and maintained with on-site mental health staff and clear pathways for managing dual diagnosis. There are examples of areas of best practice in this area to differing degrees in sites B and C, but, in site A, service users mainly rely on their key worker for mental health support. However, good partnership working in site A may be changing the attitudes of mental health services in terms of buying into the concurrent treatment of substance use and mental health issues. The mechanism towards better partnership working (see context of knowledge and communication) appears to have been a combination of factors, including research into the problems of access to mental health support for people who use drugs, commissioners taking an active role in resolving this service gap, and facilitating the key stakeholders to meet and discuss solutions.

Besides provision of mental health support by core key working staff in site C, they can also refer on to a range of specialist services. Furthermore, services in site C have on-site psychiatric nurses who can deal with a range of mental health issues and who appear to be accessible for service users. The benefit of the one-stop-shop approach in site C is suggested to be the convenience of accessing a range of mental health interventions to suit individual goals, needs and preferences. In site B, the most recent commissioning cycle has supported developments in this area. There is an on-site consultant psychiatrist, psychologist and mental health nurses in the core services in site B. This has incorporated the use of an evidence-based model to guide the integrated treatment of service users with co-occurring psychiatric and substance issues (dual diagnosis). This allows the service to address many co-occurring mental health issues relatively quickly, and assessment and referral for more intensive treatments can be made. In addition, this role has facilitated the development of an effective partnership between the addiction service and mental health services. There is some evidence to suggest that this provides a reciprocal relationship, where the complex needs of those with multiple comorbidities can be effectively engaged and managed. In addition to the CCISC (Minkoff) Model, effective partnership working has been encouraged at site B via regular interface meetings between the core service and the specialist mental health team, where service user goals, needs and preferences can be discussed in relation to dual diagnosis issues. It would appear that this encourages both services to feel like they are working as 'a single crew'.

Suboptimal approaches to the delivery of a wide range treatments and services

Although same-day access is available across the sites, it is not always possible to deliver (mainly because of a lack of prescribers). Furthermore, delays in assessment can limit the speed of access to a prescription and result in a lost opportunity to understand the goals, needs and preferences of service users and address these in a care plan. In site A, for example, initial assessment is performed by a subcontracted company by telephone with a ‘three strikes and out’ policy. There is no proactive engagement or follow-up and no face-to-face engagement. This approach lacks the flexibility to respond to individual need.

Despite a service commitment to the provision of naloxone, and its widespread uptake, there remains a need to inform service users about the importance of having it on their person for when they might suffer an overdose or witness an overdose in their day-to-day life and the need to obtain a new supply if their current one has expired.

There is evidence that many services users do not have easy access to NSP. The lack of available and regular mobile services means that service users who live far from core provision find it difficult to travel to these sites. Furthermore, service users are not recompensed for any travel costs they might incur. Restricted opening times of NSP services is a further barrier to service user access and engagement in line with their needs and preferences and often results in unsafe injecting practices. Safer consumption rooms are also not available across any of the study sites, and HAT is not available across two of the study sites. This restricts the services ability to cater for the needs of certain groups (e.g. people experiencing homelessness, public injectors, inexperienced injectors and those not ready to engage with current services). Some staff believe that HAT would be a good additional option to prescribe in the correct circumstances, as there is no one size fits all formula for treatment, and everybody experiences addiction differently.

Although a range of OST medications, including HAT, are viewed as important, it is also noted that they are insufficient to meet all needs and preferences, especially in situations where a service user is involved in the use of multiple substances, or where they do not wish to engage with an opiate substitute. It is mentioned occasionally in interviews that there is no medically assisted treatment available for cocaine, or wider supports for multiple drug use.

> *[I]t’s not just about the drugs people use … it’s often that people’s whole lifestyles, is stressful … if you can address some of the other lifestyle factors and that allows you to support people away from using crack. The same is true of opiates and alcohol, it’s not just about the drug of choice. It just happens, there are very good medications for dealing with opiate use. But I suppose how you focus on the needs of your crack using population, is just how you focus on the needs of any drug using population. Which is providing a whole range of services.*
>
> *Site A, commissioner*

Rapid detoxification from illicit drug use is a potentially useful additional medical intervention that may meet the needs of some service users who do not wish to use an opiate substitute. Across the whole data set (all sites and all interviews), however, there were only two explicit mentions (both site C) of rapid detox from illicit substances: one from a service user who wished that there was the option; and another from a commissioner who said that this was generally not offered because of fears of overdose.

Residential rehabilitation is available in sites A and B; however, there is some evidence to suggest that provision is suboptimal. There is some evidence that residential rehabilitation has been underfunded and is difficult for service users to access. One barrier to accessing this service in site B, indicated by a staff member, relates to the fact that those who make the decision as to whether a service user can access the service (and hold the funding) is made separately from those who make the referral and are responsible for preparing the service user for successful entry. Furthermore, there are several stringent access requirements that service users must satisfy (e.g. necessary funding, period of abstinence and housing/tenancy issues). Some staff in sites A and B feel overwhelmed regarding the process for access into residential rehabilitation, and it is also indicated that not having a full grasp of that pathway or the process can exacerbate these feelings of being overwhelmed. This suggests the need for staff to receive training regarding the different routes into rehabilitation and for a clear exposition of the pathway. Furthermore, there is a need for ways to increase the knowledge of staff about where and how to access residential rehab funding when working with service users. It is suggested that although waiting lists for rehabilitation exist in site C, they are not particularly large, but that due to the staffing crisis and high turnover and caseloads (see *Resources and demands*), the true number of people who may want to access rehabilitation is unknown as only referrals are measured. It is also stated that despite not knowing the true demand for rehabilitation, any waiting list is in fact too large, especially for people who may be in crisis. Additionally, it is highlighted that residential beds are limited at site C, which makes it difficult to provide this service for what is estimated to be a potential 5000 service users. There does appear to be interest from service users regarding access to abstinence-based residential rehabilitation as part of achieving their treatment goals. Interestingly, however, none of these service user study participants had been referred for such services.

Although there is an understanding among staff that pharmacological interventions require additional support [such as psychosocial support, a range of different types of support groups (e.g. women's groups, AA and NA), access to housing support, physical health and structured day programmes] to meet the goals, needs and preferences of service users, their capacity to deliver them appears to be limited across all the sites. It is possible that staff recruitment and retention problems and high workloads may contribute to this issue. Staff in site A suggest that an additional barrier to delivering such interventions are due to budget considerations that have led to the fragmentation of services delivering parts of the core service pathway. For example, different organisations have been commissioned to undertake responsibility for different parts of service provision, where core services were awarded a contract for ongoing care, but a separate organisation was tendered to conduct assessments and the delivery of additional supports over and above prescribing. This was viewed by staff and service users as leading to a reduction in the number of available additional supports for service users and a reduction in the quality of the treatment experience. For example, one staff member from site A reports that structured day programmes, group work and psychosocial supports are now harder to access, and the supports that are now available have less of a community feel, since they are not delivered in the core site. It is understood that a lack of additional interventions available to service users makes the job of supporting them to achieve their goals, needs and preferences much more difficult than it once was. It is suggested that the current lack of range and frequency of easily accessible groups has led to service user dissatisfaction, resulting in poor retention and subsequent engagement. The new system has been referred to as a 'revolving door' operation, with barriers such as a lack of direct on-site access, a referral process, limited capacity and key performance indicators (KPIs) that are not compatible with a low-threshold approach to retention. This is in line with some of the mechanisms covered in the context of resources and demands (reported further below) regarding the way in which budgets and KPIs can result in very strict requirements for retention in group work programmes. In addition, it is possible that the fragmentation of service provision has led to some resistance from core service staff to engage with the new system that has been implemented. There is also some evidence that site B has experienced some cutbacks to additional supports. It is suggested that the current reduced range and number of supports available to service users across the sites means that services may be operating with a one-size-fits-all approach. Nevertheless, it is possible that with closer partnership working and increased budgets, service provision in this area could be improved in each of the study sites, to an extent, even within the current commissioning environments.

Although several study sites appear to cater relatively well in terms of supporting people into temporary accommodation, this is not the case in all sites. Within site A, it appears that the provision of good after care for service users who leave residential treatment is not particularly well resourced or developed. It is therefore emphasised that after care must include support for stable housing in this study site if successful exit from services is to be achieved. In addition, across sites, support to access more permanent social housing or private rented accommodation is less well developed. This situation is exacerbated by the structural problem of dwindling social housing stock and unaffordable private rental properties. There is some evidence to suggest that even when service users do get to engage with support for social housing, it may not be optimal, as communication between housing services breaks down between service users or between core services, and some service users may not be aware of how to resolve problems or know who is available to advocate on their behalf.

While there are some examples of good practice regarding the provision of on-site mental health interventions within core services, it is suggested that there may remain a perception among service users that mental health support is generally hard to access, which may present as a barrier to service users asking for mental health support and thus a problem for staff in identifying and supporting people with comorbid issues. It is suggested that service users may also require to have developed a trusting therapeutic relationship with their core service key worker before they feel safe enough to disclose a mental health issue. Barriers identified in the context of resources and demands related to staffing issues (especially a lack of consistent key workers) could make it difficult for services to provide an environment in which they are more likely to identify comorbid problems. While waiting for specialist input, core staff may continue to work and support service users with mental health problems. However, it is suggested that this may place an unwelcome burden on shared care staff, as they may not have the necessary capability or capacity to deliver the mental health support that is required. This raises the potential need for training to be able to identify and intervene effectively and appropriately with any service user's unmet mental health need.

Access to external specialist mental health services that can support people with more profound mental health problems is seen as very poor across study sites A and C. There are many mechanisms that appear to lead to the suboptimal provision of concurrent treatment for mental health and substance use issues, such as long waiting times; high threshold criteria to obtain specialist support; a cultural orthodoxy where services defer access to service users until a substance use issue is resolved, or vice versa; a lack of consistency of mental health support workers; and underfunding and capacity problems. For example, a service user highlights that there are long waiting lists for intensive mental health support, and even when it may be accessed, the service user emphasises that the threshold to receive support is 'disgusting'. In situations in which mental health services are unwilling to accept a service user due to a concurrent problem with drugs, this can lead to service user frustration and a sense of hopelessness and distrust in services that they feel do not want to help them. It has been suggested that one mechanism which may reinforce a culture of mental health services refusing to take patients with substance use issues may be related to staffing issues and high caseloads within the mental health services. It is suggested that this issue, discussed in more depth as a mechanism within the context of resources and demands for OST/NSP services, may also need to be resolved within mental health services. In addition to increased funding for greater resources, this enduring situation also highlights the need for improved interservice partnership working (like that developed in site B). Indeed, site C is currently involved in some implementation work to understand and make improvements in this area, guided by a recent mental health review. Additionally, it is suggested that the recent MAT standards are likely to be a good mechanism for positive change, since they clearly prioritise areas that services can focus their efforts on. A commissioner highlights areas related to communication and the access pathway to mental health services as being important areas that need to be targeted.

Mechanism: appointments take account of service user needs and preferences, and staff are given time and resources to facilitate a proactive approach to meet these

This mechanism highlights the importance of the following in order to meet the goals, needs and preferences of service users: appointments that allow time for proactive in-depth work, consistency of keyworker, and proactive, reliable and consistent outreach services (*Figure 21*).

Optimal approaches to the delivery of flexible, tailored and proactive services

Across the study sites, there are limited examples of where staff do have time to take an in-depth and proactive approach. This can lead to service users achieving success from their treatment, such as consideration of their treatment goal, but especially regarding issues that go beyond an OST prescription (such as custody of children). When an in-depth and proactive approach to the delivery of care is taken, and needs are met in collaboration with established partnerships, it can be very effective, but this does require the appropriate staffing to deliver. There are some good examples of flexibility in service provision, especially in outreach, where service users may wish to discuss their care plans out with scheduled appointments or in venues out with the core site. Nevertheless, given high caseload

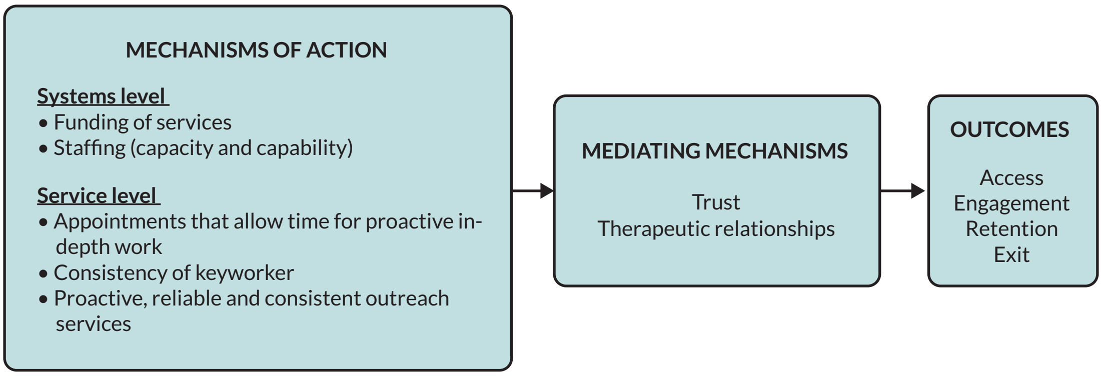


FIGURE 21 Mechanisms of action and mediating mechanisms of delivery of flexible, tailored and proactive services.

numbers, this could remain challenging to provide. Where service users have a named and consistent keyworker, they tended to have a good therapeutic relationship, increasing feelings of support, control and a sense that they would achieve their goals, with service users feeling that enough time has been spent keeping them well informed regarding their medications and their treatment choices and goals. Outreach service provision across all three study sites is well established. Strengths of outreach pathways in each study site appear to be related to their flexible and proactive approach and their delivery of same-day assessment and OST prescriptions. The provision of outreach services appears to be effectively delivered for high-risk homeless people as well as street injectors. In addition, there is evidence to suggest that outreach teams can be a useful tool to re-engage service users in the core site who have fallen off prescription or regular contact with the service.

> *We have an outreach team. We've got another pathway which is the homeless pathway … extra branches who target the clients that usually find it difficult to access core team treatment … we tend to find these clients can be some of the more chaotic clients with regards to their drug use. So it's really important that our outreach team have access to things like the needle exchange, they're taking packs out when they're doing outreach, so they can give it to people who aren't necessarily coming to your typical in-house service.*
>
> *Site B, staff*

Suboptimal approaches to the delivery of flexible, tailored and proactive services

Staff highlight the importance of being able to spend time with service users; however, the demands of the job (see resources and demands) may impinge on the ability to be able to do this. Evidence indicates that staff caseloads are high, there is a heavy burden of administrative tasks and allocated appointments short, leaving little time for in-depth work. To afford time for more focused support work within appointments, staff need to be very creative and organised (which could be considered above and beyond the roles and responsibilities of the SCW post). This may even result in less in-depth note-taking regarding ongoing cases. While appointments are currently flexible in some areas, they may need to be adapted to suit people who have chaotic lives and thus difficulty with engagement and retention.

> *Clients on OST … a lot of them tend to be quite chaotic which means it's difficult to be organised but also flexible, so you give them an appointment and if they don't attend … you try to see them but you're not going to be able to sit down for half an hour and have an in-depth conversation about things.*
>
> *Site B, staff*

Service users may lose trust due to limited possibilities for meaningful and timely contact with services, which may be exacerbated by the lack of a consistent keyworker. Indeed, across all study sites, service users commonly do not have regular access to the same keyworker, which limits the in-depth work that can be done. This is attributed mainly to recruitment problems, further limiting the possibility of in-depth work.

Context of resources and demands

Findings from the RE indicate the importance of the context of resources and demands. This context was not present in the IPT. Our analysis, leading to a RPT, suggests that optimal service delivery can be achieved and understood with reference to the following five main mechanisms in this context: understanding service demands to inform service delivery and design so that resources can be allocated appropriately; staff are supported and resourced to overcome barriers to their ability to effect good treatment outcomes and to work effectively and efficiently in their demanding roles; core services receive adequate, reliable and sustained resources to create the right circumstances for good recruitment and retention of staff; funding of core drug services and wider drug service-related initiatives is sufficient, reliable and accessible; and a range of KPIs are measured to direct effective service delivery, ensuring provision remains person-centred.

Mechanism: understanding service demands to inform service delivery and design so that resources can be allocated appropriately

This mechanism highlights the importance of the following to understand service demands and thus to allocate resources effectively: meaningful consultation (formalised as well as ad hoc) with all stakeholders; sufficient time made available for staff to be able to reflect and provide feedback upon what is working and what is not; and those involved in commissioning having an on the ground understanding of service delivery experiences and issues (*Figure 22*).

Optimal approaches to understanding service demands and to allocate resources appropriately

To understand service needs and demands, it is important to consult with all key stakeholders. The views and experiences of service users and staff are important mechanisms to meaningfully understand service demand and thus ensure that resources are allocated appropriately. There is evidence across all study sites of service users and peer workers being formally consulted regarding their experiences of services.

> *[T]hings like focus groups and surveys with the service users we do use- As I said we've got a peer-led service and we do consult with the peers on that service quite a lot.*
>
> *Site A, commissioner*

There are also examples from two study sites of service users actively being consulted specifically at the commissioning level. It is possible that a formalised approach can contribute towards the development of a shared ethos of service delivery towards meeting the goals, needs and preferences of service users. This underlines the overlap between the contexts of resources and demands, knowledge and communication, and goals, needs and preferences.

While there is some evidence to suggest that service users are involved in a formal way in the commissioning process, it is suggested that service users do not have enough time to engage with the written materials, and furthermore, service users find it difficult to interpret and understand what was written. Service users require good proactive leadership and support to get them engaged and keep them involved.

Formalised approaches to consultation with staff appear to be very limited, although in one site, there is evidence of formalised approaches being taken to inform staff and to take feedback form staff regarding any changes in service delivery. However, ad hoc approaches to consulting with staff seems to be more common, especially where there exist strong cohesive staff teams. Although some staff are not aware of formal routes to feed into commissioners, staff do sometimes know who the key managers they should speak to if they had any issues to voice. In this kind of environment, an open-door policy by managers appears to be a valued and effective route for staff to feel confident that their views regarding service delivery will be heard and relayed appropriately. Furthermore, this mechanism may also allow staff to be readily informed of any potential impact of their voice on service change.

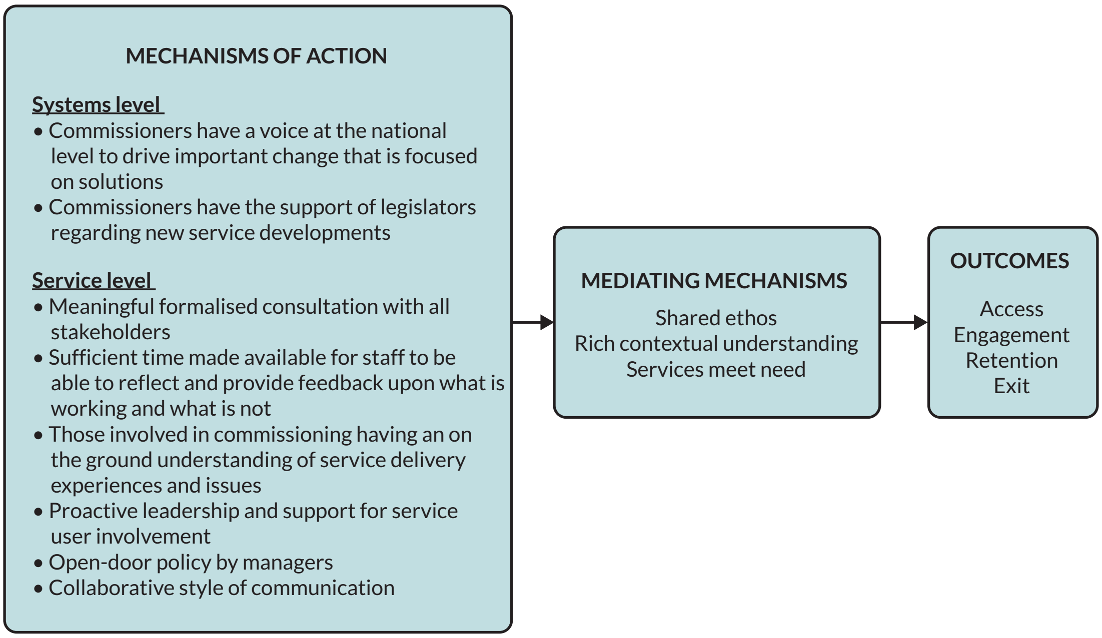


FIGURE 22 Mechanisms of action and mediating mechanisms of approaches to understand service demands and allocate resources.

There is evidence in two of the three study sites that commissioners can be readily available to be consulted and that they can have a very collaborative style. Staff also suggest that commissioners are approachable and proactively working closely with staff, for example, being involved in MDT meetings. Service managers and commissioners may often work together when preparing and discussing quarterly reports of service delivery issues. This close way of working with commissioners is viewed as very positive in terms of being able to communicate service performance and gaps in service delivery, especially where there is continuation of the same commissioner.

Suboptimal approaches to understanding service demands and to allocate resources appropriately

Although the views and experiences of service users and peer workers appear to be formally sought, the views and experiences of staff do not.

> *I think that staff are currently feeling so not very listened to yes. Yes and that their you know concerns around how the organisation is being run are not being listened to.*
>
> *Site A, staff*

It appears that staff may often be aware of instances where service delivery is less than optimal; however, the day-to-day demand of their jobs leaves little time for them to provide feedback of their experiences and concerns. There is also a perception among staff that they are not listened to, and when the views and opinions of staff have been sought, staff are unaware of this. (Perhaps, due to the ad hoc nature of such consultation.) Some staff suggest that they are not a formal part of the consultation process and are unsure if their views will be actioned. However, there is evidence that, on occasion, and where a staff member feels strongly about an issue, they have seen a change in response to managers taking their feedback to commissioners. There is some evidence that allied services do not have a full understanding of some commissioning decisions that affect their service. This suggests the need for feedback and consultation to be considered beyond core services.

> *[B]ecause I'm not a clinician I don't have a voice in these decisions.*
>
> *Site B, non-core staff*

There is some evidence that commissioners need to have a voice at the national level to drive an important change that is focused on solutions, especially as the national strategies tend to be focused on the hard targets that are measured by national outcome monitoring systems. It is argued that a more consistent approach is needed that can address the areas where real change is needed to improve the way services operate, which needs a methodical and sustained approach. For example, commissioners need the support of legislators to be able to implement much-needed interventions, such as HAT, safe consumption rooms, and any significant changes in the way that services may need to be delivered.

There are views from some staff that those who are responsible for commissioning may have less direct experience of the drug and alcohol field and that that they may therefore be one step removed from front-line service delivery and thus not fully aware of pertinent issues when making commissioning decisions. Furthermore, non-core services staff also indicate problems with the commissioning process. For example, their experience is that scheduled meetings do not always go ahead. Furthermore, even when meetings do go ahead, there is insufficient preparation time and reading materials are not provided in a timely manner.

Mechanism: staff are supported and resourced to overcome barriers to their ability to effect good treatment outcomes and to be able to work effectively and efficiently in their demanding roles

Staff are one of the most valuable resources in the provision of optimal services. They face many demands, challenges and burdens and require support to be effective in their roles so that they can engage in work that they find rewarding (e.g. service user-centred care and delivery of therapeutic interventions). This support is best delivered via effective supervision, reflective practice and strong adaptive teams. Managing stress and promoting well-being is crucial and involves reducing the possibility of burnout and ensuring that services are well resourced and not spread too thinly. High caseloads are a particular burden and should be capped at levels that allow staff to deliver a person-centred high-quality service. Furthermore, staff should have access to adequate and regular training that ensures they have the necessary skills and knowledge to cope with the demands of their role (*Figure 23*).

Optimal approaches to supporting and resourcing staff

Optimal approaches to supporting staff are important, as a major burden experienced by nearly all staff interviewed in this study was the burden of high caseloads, high workloads and the responsibility associated with their complex roles.

There appear to be different approaches to managing the burden of high caseloads across the study sites. In site B, there are attempts to monitor caseloads via supervision to ensure that staff are not overwhelmed with unmanageable burden. From evidence across all study sites, caseloads of up to 40 clients is considered to be manageable. For staff who may be struggling with the levels of their caseloads, one pragmatic solution suggested was to discharge service users who are not engaging (although this could be considered to be counterintuitive to optimal service provision where retention in services is considered as a positive outcome). Evidence from site C indicates that the manageability of caseload numbers can vary depending upon the nature of the work being undertaken. For example, staff working with complex cases will have a lower caseload than other staff. Short staffing resulting in staff having to cover other colleagues' workloads may lead to an increased possibility of stress and burnout. It is suggested that good working practices, such as structured approaches to the organisation and preparation of daily workload, can help staff members to manage their high caseload effectively. Nevertheless, it is alluded that the efficacy of this strategy is fragile, as any service users in crisis can overwhelm and take over a case manager's entire day. Some staff do employ strategies to help them manage their high caseloads (e.g. using templates to capture client information). However, the use of templates (which may involve cutting and pasting information) may lead to inaccurate information being recorded.

There is some evidence that although reducing workload is fundamental, staff also require additional support through supervision, management structures and the development of strong cohesive teams with shared goals. There is evidence across all study sites that staff feel supported by management and their staff teams, for example, some suggest that there is always a more experienced staff member with pockets of knowledge who can help guide them. Less experienced staff enjoy the availability of on-site medical staff or more experienced staff for job-related advice. They state that they do not 'feel alone', suggesting the importance of this environment in dealing with what can be a stressful and demanding job. In addition, supervision sessions are regular and experienced in a positive way. One staff member, for example, refers to their emotions as being packaged into a 'safe space', suggesting the importance that the staff member places on their ability to offset the emotional baggage (which could be unsafe for the staff member and for the quality of the service they provide) of the job in these sessions. Furthermore, while reflexive practice is viewed as an important mechanism to promote staff well-being, it is suggested that it is most likely not a solution to the ongoing burden of staffing issues, high caseloads and workloads that can lead to burnout. It is suggested that rectifying the systemic problem of understaffing and subsequent burnout and retention problems is only possible with increased recruitment and an environment in which people want to remain working in OST and NSP services. Staff also identify that, given the intensity of the job, the importance of a strong supportive team may not always be enough. For example,

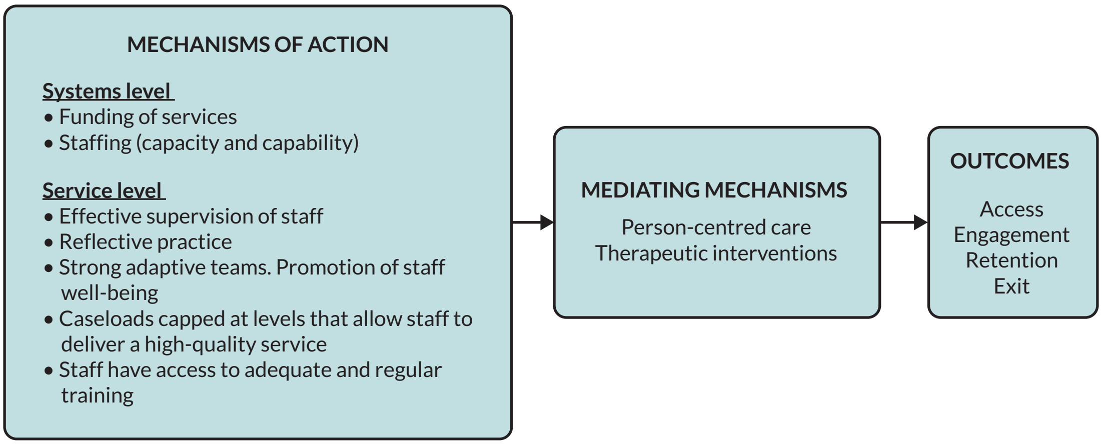


FIGURE 23 Mechanisms of action and mediating mechanisms of approaches to support and resource staff.

this may particularly be the case for SCWs in site A, who write prescriptions and could be considered as non-medical prescribers and who must negotiate the fear of potentially life-threatening outcomes.

> *There is a strong connection between staff and people are supportive of each other massively … but the reality is that people do an intense job, caseloads are huge, the pressures are massive, really if you think about it, I don't actually need to think about it because I've got a third of those people, technically the buck stops with me. Someone is behind me luckily, but it is a big – I think having the prescribing responsibility can weigh really heavily on your wellness because it is, nobody wants to kill anyone is the reality.*
>
> *Site A, manager*

There is an understanding among staff that, although the focus of their job is on improving the well-being of service users, staff also need to take care of their own well-being. Some staff indicate that they have taken it upon themselves to develop well-being services in their department, which both service users and staff can access. This may suggest the need for a model of care that provides more organisation of staff well-being opportunities as well as tapping into the skills that staff have in attracting services that they feel are important for staff to be able to access, such as clinical psychology. There is some evidence that staff understand the need to shift some focus on staff well-being, given that caseloads and demands of the role are high.

Suboptimal approaches to supporting and resourcing staff

Despite attempts by services to reduce the burdens and demands that staff experience, caseloads and workloads remain unmanageable for many staff across all study sites, inhibiting the delivery of a quality person-centred service. High caseloads also contribute greatly to the possibility of stress and burnout, and even though services are aware of this and are attempting to support staff, significant problems persist, not least due to ongoing problems with staff recruitment and retention. For example, with low staffing levels, this means that current staff must be spread very wide and thin to cope with service demands and thus may have to cover the workload of others as well as their own.

> *So, I think most people feel totally squeezed with their caseloads … Because we're short staffed we're cancelling our own surgeries to go and cover other people's surgeries which means we're squashing more people into our sessions because we've got less sessions to offer so it's becoming less flexible.*
>
> *Site A, staff*

The burden of managing a high caseload can also mean that staff are having to work beyond normal service hours (including working weekends to prepare for the week ahead and very early commutes to work). In site C, there is an understanding among management that the staff workload is unmanageable, and strategies are being looked at to reduce that burden by distributing work among a larger support network to include peer workers, other specialist teams and additional staff on lower wage bands to provide more staff resource for the same or less costs than the current setup.

Evidence from a commissioner perspective clearly identifies that unmanageable workloads lead not only to stress and burnout but also to a lack of provision of any meaningful in-depth work with service users, thus reducing the ability to develop therapeutic relationships. This can lead to job dissatisfaction. Service users confirm their frustration, with workers appearing too busy to provide timely and adequate support. Some service users suggest that high caseloads can also lead to staff having to juggle too much and that this may have an impact on accurate note-taking on service user records, which can have a negative impact on the service user experience of service provision. Furthermore, there is evidence that commissioners are not spared from the burden of high workloads, meaning that the development of core services is often not the priority.

Although there is evidence of services attempting to support staff well-being, it would appear that this is a demand that services are struggling to cope with. It is suggested that high-quality supervision requires sufficient space, time and expertise to deliver. For example, in site C, there is a burden upon team leaders to find the time to provide staff supervision while, at the same time, having to carry a high service user caseload. It is also suggested that it is very difficult for teams to find the time to ensure that team-building interventions are organised. Where staff are supported, for example, via group reflexive practice, some feel that it primarily focuses on caseload management, leaving little or no time to focus on staff well-being. Staff describe the emotional toll the job can take, and a lack of mental health support can be a burden on current staff who do not feel fully equipped to deal with people who have mental health problems themselves. With high staff turnover and a loss of some highly skilled workers, some staff feel that they have become the individuals that less experienced staff go to for help, which, on top of their own caseloads, is a significant burden. In addition, staff describe the difficulties and burdens of their roles, which include potentially demanding service users, high caseloads, the expectation of service user deaths and having to deal with the emotions of losing someone you have a therapeutic relationship with while also having to continue to see your current caseload.

Mechanism: core services receive adequate, reliable and sustained resources to create and maintain good recruitment and retention of staff

An optimal service requires to attract and retain a skilled and motivated workforce; however, across all the study sites, this is a significant problem that needs resolution. There should be the provision of attractive career pathways across a range of different roles such that those who enter the service are aware of possible career trajectories and those already in the service can plot a future career. It is recognised that core services should ensure that there are adequate staffing levels, with workers who have the necessary skills and aptitude for a range of demanding roles. Services should ensure that skilled and valued staff are retained and not lost prematurely. Remuneration should commensurate with the knowledge and skills required and with the demands that various roles entail (*Figure 24*).

Optimal approaches to providing adequate, reliable and sustained resources

Opportunities to have an established career, and career progression, are seen as important mechanisms to ensure that the staff resource is adequate to meet the demand required for optimal provision of OST and NSP services. There is some evidence (specifically from site B) that good support from line managers delivered within a supportive environment can help staff to progress and develop their career in areas that interest them. However, much of the data related to this important mechanism are aspirational rather than currently in practice. For example, some staff suggest that externally certificated training may be more valued than internal training, especially in terms of building a curriculum vitae (CV) portfolio that can evidence and enhance career prospects. Evidence across the study sites suggests that a recognised clinical field of addiction may be preferred by some staff. One suggested solution to make the field more attractive is to create a professional career pathway or faculty that legitimises the specialism. Creating a more legitimised career pathway is seen as helping to increase the skill level of the work force and attract more people to it. A manager in site B alludes to the fact that within a specialist field of harm reduction, it would be important to support and train staff in a wide area of expertise. It has also been suggested that a more formal faculty of addiction

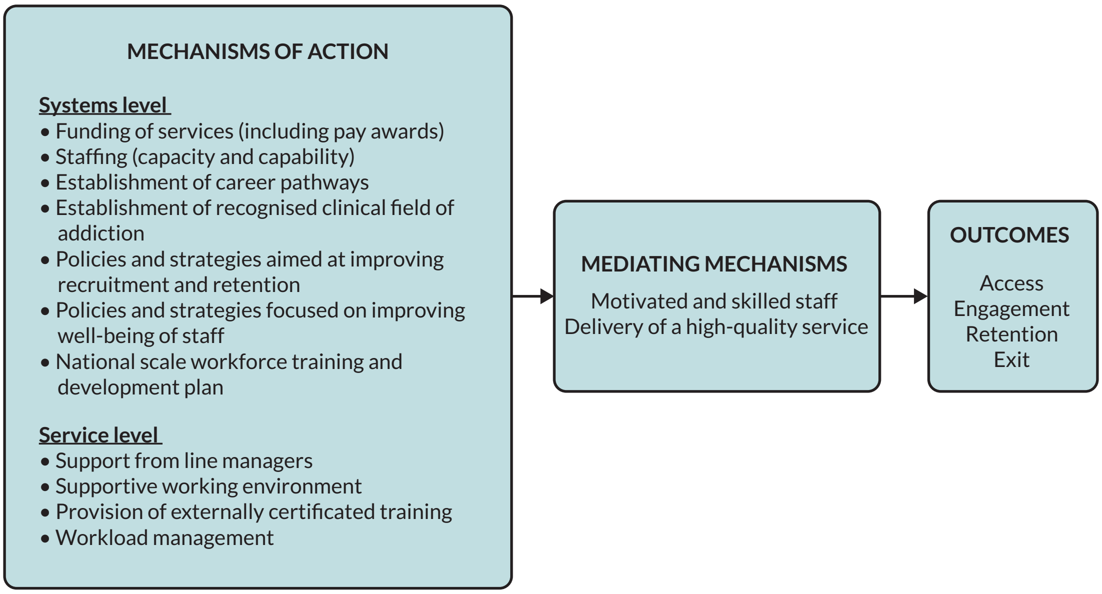


FIGURE 24 Mechanisms of action and mediating mechanisms of approaches to provide adequate, reliable and sustained resources.

medicine would be particularly helpful to legitimise the speciality and provide a career pathway that may attract people into the industry.

> *[W]hat might be helpful is to have a faculty of addiction medicine, that's got people involved at different professional backgrounds who want to specialise in addiction medicine, and to have accredited training that is approved by that faculty so people reach certain standards … and give a structure to a career in addictions … I think that would undoubtedly lead to a quality standard improvement for clinical services … it has a lot of other benefits including a sense of a profession in which people want to travel to and want to be involved in. It would give some representation in the Royal Colleges … to national government … it would give a voice of prescribers and clinicians in a much more formal and structured way than is currently being done.*
>
> *Site C, manager*

However, a commissioner suggests that there needs to be a balance between professionalism in the industry while still having a legitimate pathway for those with lived experience. They suggest that they have not put a lot of consideration into the former, but there has been a lot of thought and activity to ensure those with lived experience are attracted into the industry in site C. Higher wages are also viewed by staff as an important mechanism to encourage recruitment and retention, especially as many staff find the work rewarding. However, some staff believe that more money on its own will not always be enough to improve recruitment and retention, as it will not likely be sufficient to offset the demands of the job and the stress that this incurs.

Suboptimal approaches to providing adequate, reliable and sustained resources

A lack of staff (in core services and the third sector) is viewed as a significant resource shortage that impacts on the ability of staff to provide a high-quality service. Staff suggest that they work very hard under difficult circumstances but are unable to satisfy the needs of service users due to restricted staff resources. Although there is some evidence from staff that strategic priorities are an important facilitator to the provision of services that meet the goals, needs and preferences of service users (e.g. provision of same-day prescribing), with staff shortages (especially a shortage of those that can prescribe), delivering these priorities can further reduce the capacity of staff to be able to offer a wider range of support. Staff suggest that current demands on the service may require service users to be highly organised and structured and attend scheduled appointments so that workloads can be managed more efficiently and effectively. However, it is stated that service users are often chaotic, and that in this real-world environment, current staff resources are unable to meet service demand, especially as significant time and effort are often required to follow up with non-engagement (which an optimal service should be doing anyway).

Poor staffing levels appears to be an industry wide problem, and although there is evidence that the services across all three sites are still managing to keep running, they are struggling to cope. However, the cost of coping with current demand may be to the detriment of staff health and well-being.

> *I've been working there for about one and a half years and I think maximally for two or three weeks we were fully staffed. So it's always lack of staff. So our caseloads tend to be quite high … around 45 and 50 even though they're meant to be around 40 … it can be difficult and I guess what happens when you don't have a lot of time is that some people can fall out of contact for a little bit … when I first started working there, I would work late nearly every day trying to get on top of everything … in general I guess it is usually quite stressful.*
>
> *Site B, staff*

There is evidence from a commissioner that staff well-being should be a consideration for future commissioning rounds as it may not have been a priority in the past. It would appear, that it has become more of a visible issue since publication of the independent review of drug services by Dame Carol Black. The commissioner mentions possible issues, such as pay grades and supervision, which may need to be improved to retain skilled staff who perform in what can be a highly stressful and specialist environment.

There appears to be a particular problem with retention of existing staff across all study sites. High staff turnover is implicated as a significant factor responsible for a loss of skilled staff and thus limitations in providing optimal care. Due to the additional demands on current staff as a result of high turnover, caseloads and a recruitment crisis, there are many aspects of the job, such as recovery-focused psychosocial interventions, that do not get completed due to the priority of delivering core prescribing activities. There is evidence that the heavy burden (e.g. the burden of high caseloads, unmanageable workloads and excess paperwork) that the job entails may be partly responsible for staff leaving the service early. There is also evidence that many experienced staff members are leaving the industry and, as a result, services are losing important knowledge. This is not only restricted to the skills and knowledge that can be taught via training but also to the knowledge resources and relationships with allied health services that experienced staff members have built and can be drawn upon and shared via mentorship and as role models to new staff. It is suggested that this knowledge is important to keep, as it can help to shape optimal practice. Evidence from a core service staff member in site A suggests that following a period of recommissioning of services, where there have been changes to the way in which services are delivered, this can result in a loss of job satisfaction and thus directly influence the desire to leave the job.

There is some evidence that working in OST/NSP may be a stigmatised profession, and it will need to be resolved to attract staff, perhaps through a mechanism that encourages respect from allied professions such as those working in harm reduction and treatment for substance use. It has been suggested that staff also need investment in their personal development and career progression opportunities if retention is to be improved. Nevertheless, high caseloads are implicated as a possible challenge to delivering on the commitment to staff development. Low wages are also indicated as a major factor in the reason that staff retention can be poor, and this appears to be exacerbated by the cost-of-living crisis. This indicates that recruitment and retention problems may worsen as a result. For example, staff across the services suggest that low wages in relation to the value of the services they provide could push them to look for alternative employment, especially as they struggle to live comfortably on their wage. It would appear that one of the motivating factors keeping people in the profession is the sense that it is a vocation with a certain amount of job satisfaction. However, when low wages are met with reduced job satisfaction, and a cost-of-living increase, people may feel the need to seek alternative employment with higher wages, which may result in a loss of skilled and knowledgeable people from the industry. In addition, general recruitment issues in the nursing profession mean that some nurses move jobs regularly in search of better positions (i.e. those offered at higher grades due to high demand and a low supply of applicants to fill posts). This exacerbates the issues related to retention, resulting in even higher rates of staff turnover. Furthermore, where provision is delivered by a mix of statutory and third-sector organisations, there can be different wage structures and conditions for people performing similar jobs. For example, in site B, those employed by the NHS may have higher wages and have better conditions than those employed by third-sector organisations for similar roles.

Understaffing and staff retention are clearly a problem in areas across the sites; however, the recruitment of new staff does not appear to be an easy and effective solution for many reasons. It is suggested that new staff who are brought in to replace the loss of experienced staff (such as volunteers or students) are not a viable long-term solution, as they tend to view the job as a stopgap rather than a long-term career prospect. It would also appear that less people may be applying for jobs in the addiction field as it has become a less attractive career prospect. There is therefore likely to be fewer applicants, and fewer still with the necessary experience, to effectively bridge the recruitment gap. This suggests that there is likely to be a skills gap, which emphasises the need to provide training and support, especially for inexperienced staff. This is particularly problematic, because it can take existing staff away from directly meeting the goal needs and preference of the services users on their caseloads. Although there is evidence of induction of new staff, training opportunities and available funding to provide these have vastly reduced, particularly regarding the availability of courses that come with credit and certification. High caseloads and staff turnover have a detrimental impact on the ability of services to provide in-depth training. Instead, inductions may be quick and basic to ensure that new employees can carry a caseload immediately and current staff are not overburdened with the task of supporting and training new workers. There is some evidence that the latest drug strategy in England and Wales has resulted in money being available to focus on service improvement. However, the staffing crisis makes it difficult to facilitate service improvement or implement a wider range of services that could contribute towards optimal provision. For example, a commissioner in site B suggests that the lack of a national scale workforce training and development plan is a problem in need of resolution. Instead, in the absence of a national strategy, it is being left to commissioners to resolve issues regarding deficits in the available pool of skilled workers in their remit, which is limiting effective service improvement and may not be sustainable in the long term.

Mechanism: funding of core drug services and wider drug service-related initiatives is sufficient, reliable and accessible

Core drug services, and wider drug service-related initiatives, require sufficient, reliable and fully accessible funding to deliver optimal OST and NSP services. There is recognition, across the workforce, and across a wide range of service users, that core drug services are less than optimal due to underfunding. A range of general and specific factors are implicated in this underfunding, not least the knock-on effects of austerity. There is evidence to suggest that as well as increases in funding, the mechanism of allowing for lengthy, stable funding periods between commissioning cycles is highly desirable. It should be noted that most of the data contributing to the mechanisms described here relate to stakeholder reflections on the suboptimal nature of budgets and funding (*Figure 25*).

Optimal approaches to the provision of funding

National strategies are viewed as potentially important top-down mechanisms and facilitators towards positive service development. There is some evidence that the latest drug strategy in England and Wales has resulted in money being available to focus on service improvement. In Scotland, the MAT standards are viewed as an important mechanism that could be mobilised as a driving force for actual change towards the provision of appropriate and secure funding to provide optimal services. There is some evidence to indicate that commissioners would like a national framework that facilitates them to work in partnership with government, and thus to develop strategies that work in the local context, especially regarding development of the available workforce. Commissioners would also like more of a voice at national level, as they see themselves as the experts of their local context. However, commissioners also see a national strategy as having the legitimacy to push change in the right direction and improve services, especially regarding ensuring consistency of opportunities for successful service user access, engagement, retention and successful exit with services.

> *[Y]ou can't say local knows best and then impose arbitrary strictures on that … it's doing things with one hand tied behind your back … and that's got to change … a better national structure … I would say you need to be consistent in your approach. You need to encourage continuity of purpose and … direction and you need to communicate effectively because if you don't do any of those things, actually it doesn't … matter what you do, it's not going to be cohesive.*
>
> *Site B, commissioner*

Even where sufficient funding might be made available for services, the staffing crisis can make it difficult for budget holders to spend on direct staffing costs. In addition, there are time requirements for spending, which can mean that money may not be used in the most effective way. It is suggested that more investment is required in the training and development of staff but that this would also require more flexibility around expectations as to when this had to be spent by. However, despite a lack of sufficient and reliable funding, and in the face of short staffing, there is evidence that staff members go above and beyond to try to deliver a high-quality service.

Suboptimal approaches to funding

While there is recognition of the importance of national strategies as drivers for positive change, there is a recognition that not enough funding is made available to be able to deliver on governmentally agreed standards that

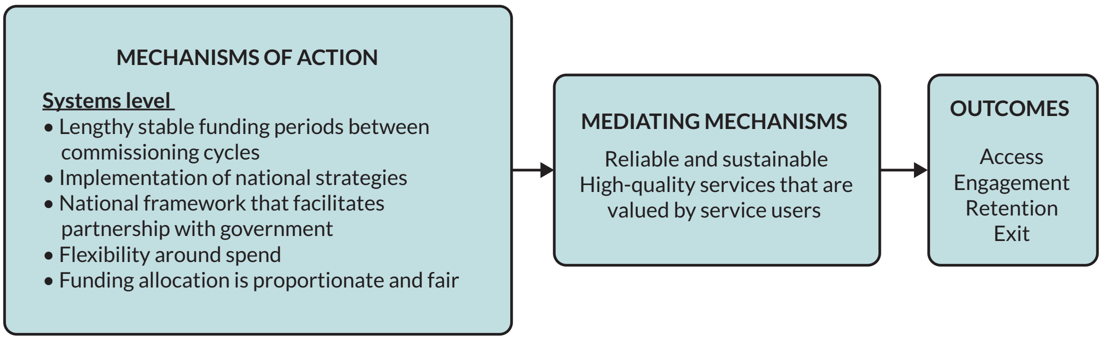


FIGURE 25 Mechanisms of action and mediating mechanisms of the provision of funding.

should be met (e.g. MAT standards in Scotland). Financial restrictions make it difficult for services to cope with their current demand. There is some evidence that restricted budgets mean that the service cannot provide the level of assistance that they would like to (e.g. being able to work with clients to explore their difficulties with engagement; providing the offer of rehabilitation and providing supports and services over and above prescribing). There are also examples where lack of adequate funding has led to a higher threshold of rules and regulations around retention in services, for example, where service users are given three chances to re-engage after dropping out before they are discharged. It would also appear that some financial constraints and some staffing issues may make it difficult for services to adapt to ensure that the barriers to engagement can be adequately resolved within the constraints of the current service pathway.

It is suggested that it would be beneficial to have unrestricted access to budgets to deliver treatment and services that meet service user need. Furthermore, there are perceptions that funding is not apportioned fairly, for example, a perception that smaller drug service-related initiatives receive disproportionately much less funding than other larger services. There is also evidence that main sources of funding alone are insufficient and that services may have to rely upon funding from multiple sources. Furthermore, funding can be time-limited and insecure with the threat of withdrawal of funding at any time. It appears that this uncertainty can cause great difficulty for staff and that service provision can suffer, with clear evidence that short-term funding contracts in the third sector can disrupt the ability to deliver a high-quality service delivery.

The funding of services that provide OST and NSP is provided for a specific period, after which services must tender to continue to provide those services. The funding cycle of commissioning and recommissioning services varies across sites. Our current understanding is that core services in site A have a commissioning cycle of 3 years. Indeed, since site A adopts a shared care model, all services (core or otherwise) operate on a 3-yearly commissioning cycle. There is some evidence that short recommissioning periods can be unsettling for staff, leading to a loss of expertise and experience in the industry as people reconsider the option of moving to work for a different supplier who provides a similar service once their current employer loses a contract. Some staff of other services suggest that a recommissioning process of 3 years is difficult to navigate and manage, because it comes with the stress of having to make regular additional bids to continue funding for their service while also juggling the day-to-day activity of running the service. It also has implications for the jobs of their staff and for their own income and the stability of the staff who provide a service that supports the core service. It is suggested that the commissioning process should not involve different organisations bidding against each other for the same contracts every 3 years, alluding to the need for longer periods for current organisations to be more concentrated on developing the quality of current systems and pathways. It is possible that short funding periods can encourage competition between providers rather than foster partnership working. It is possible that in an environment of competition, the priority of services becomes the achievement of ‘hard’ targets and in securing future tenders for service delivery. This is potentially to the detriment of developing positive relationships with partner organisations and in delivering a quality service. It is suggested that secondments could be a good way to improve partnership working and perhaps develop a shared ethos between organisations towards quality of service as opposed to efficiency and winning contracts.

> *It’s such a challenge within the third sector … because you’re constantly on short term funding contracts and the funding is never extended. You’re then having to find another funding pot and slightly shift your focus to fit into that funding pot. So you sometimes lose some of the efforts of what you’re trying to do because there’s not necessarily the scope to have this kind of natural learning and progression.*
>
> *Site C, non-core staff*

In site B, by contrast, core services have a commissioning cycle of 10 years because of a commissioner who made it an imperative to establish a lengthy period of stability between funding cycles. There is some evidence that the 10-year commissioning process is perceived as providing some stability in services, allowing them the time to examine, refine and optimise the service that they deliver. There is recognition that there is a wider constraint on funding services generally and also that there is a wider lack of understanding about the nature of the problems faced by people with drug-related problems. Furthermore, there is recognition that funding may be predicated on inappropriate KPIs.

Mechanism: a range of key performance indicators are measured to direct effective service delivery and provision and to ensure that provision remains person-centred

An optimal service requires a range of different outcomes to be considered when setting targets to be achieved. KPIs are measurable values that can determine how effectively a service, staff member, team or organisation is achieving an objective. KPIs can also help a service to determine if they are optimising their resources on the appropriate strategies to achieve strategic goals. KPIs should include 'soft outcomes' that measure a range of things that are important to service users and staff as well as 'hard outcomes' related to more general epidemiological treatment outcomes (e.g. number of people in treatment, length in treatment, waiting times and treatment exits) (*Figure 26*).

Optimal approaches to using key performance indicators

There is evidence across sites that KPIs may be a useful tool to monitor and justify how effective services and staff may be performing, which can also be used to justify a service's existence. KPIs may also motivate services to direct resources towards achieving results in strategic priority areas set out by policy-makers.

> *I think they expect us to have high numbers in treatment, I mean remaining in treatment and either being a successful discharge onto kind of ongoing services or maintaining on a stable, optimal dose of something. Think they would be concerned if we had people dropping out that were on scripts because, I mean there's risks associated with that. We want to keep people in treatment.*
>
> *Site B, manager*

Effective care plan recording systems (as discussed in the context goals, needs and preferences), when used appropriately and effectively, can facilitate the accuracy of the performance data that are relayed to commissioners and fed into national monitoring systems. In addition to the useful information that commissioners and policy-makers can access via national monitoring databases (e.g. treatment entry, retention and exit), services also receive feedback of their performance outcomes via regular meetings and formal reports.

Suboptimal approaches to using key performance indicators

There is some evidence that hard targets, although useful, can be negative for services, especially if softer targets are not measured (such as motivation to engage and small behaviour change victories in line with a service users' treatment goal). Hard targets are described as a 'blunt tool', suggesting that they do not account for the more nuanced targets that may be more important. For example, a manager from a partner organisation in site A suggests that it may be more important to measure contextual information around dropout rates, and to understand this better, perhaps so that service users can be supported in a better manner. Additionally, a manager from site B suggests that that too much focus on the measurement of service performance related to hard targets can lead to staff dissatisfaction in their role, especially if harder targets do not necessarily capture the type of service user successes that they may be facilitating.

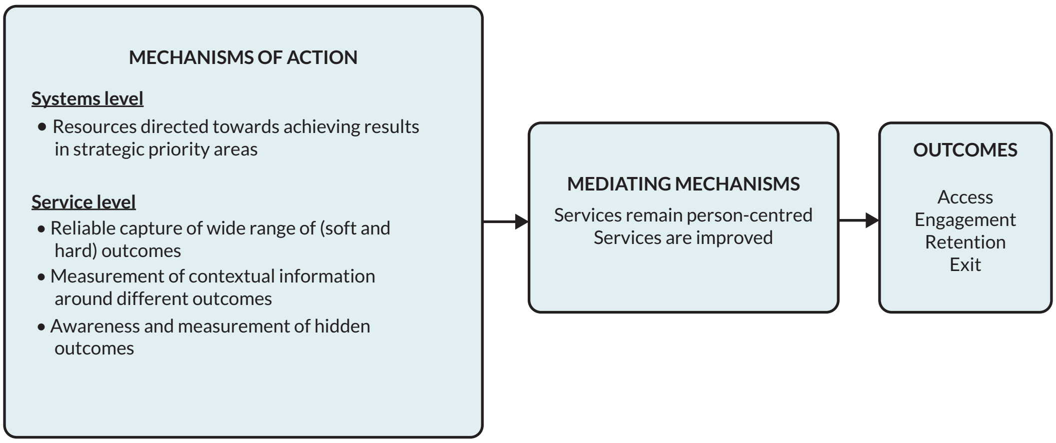


FIGURE 26 Mechanisms of action and mediating mechanisms of KPIs.

> *[Hard targets], it misses … soft data. So, it's very clinical and it doesn't measure how people are getting along with- say if you had a client that didn't leave the house, and actually, a really good outcome for them was to be able to go out once or twice a week and get their shopping … those sorts of soft outcomes are not measured at all, but are really important to people having a recovery … And that kind of stuff obviously isn't recorded or monitored … I think so. So, there's obviously a hard drive on the stuff that they do look at, and workers are constantly told, you need to do this, you need to do that. And there can be an attitude that actually, this is just paperwork, it's not drugs work you're telling me to do … but actually, seeing them making other changes around their drug use, which will eventually lead to- it's part of the whole package. And I think if that felt as valued as some of these harder outcomes that are easier to measure, then workers would feel more satisfied.*
>
> *Site A, manager*

Hard targets can also create a conflict of interest between attaining a performance goal for the service versus doing what may be in the best interests of service users. For example, it is possible that service users may be discharged from treatment early so that the service can achieve a target related to the successful completion of treatment. However, although the service user may have achieved abstinence, they may be vulnerable to relapse and need further ongoing support. While measuring successful treatment exit can provide a snapshot to indicate whether a service is producing good results (in terms of helping service users achieve abstinence), without measuring the subsequent hidden outcomes beyond discharge (e.g. they may not re-engage following a relapse), the true success or failure cannot be properly determined. It is suggested that a more rounded approach to KPIs is needed to ensure that services remain person-centred. One commissioner suggests that while 'hard targets' (such as the number of people who are successfully discharged from treatment following abstinence) are useful measures for some, there should be additional measures that quantify the support for people beyond the achievement of abstinence, to include their wider needs, or long-term support to avoid relapse. For example, extending the definition and measurement of KPIs related to the concept of successful exit could motivate services to resource more continued contact and support for some people (perhaps, those who may consider their opiate use to be a long-term health condition). This could help to transform and reconceptualise the outcome measure of successful exit into one more aligned with the goals, needs and preferences of different service users. It is understood by many stakeholders that the development of appropriate and effective measures for softer outcomes will be a complex task. However, it is also seen as an important consideration to find a way to measure soft outcomes to drive service improvements towards an optimal person-centred approach.

> *And who is it that you need to convince that Key performance indicators have to be more indicative of these softer targets as well? It starts with the National level because if I can talk to elected Members and I can talk to the chief exec and I can talk to directors in the building, but they will always take you back to, well, these are what the indicators are and these are what we what we are measured by. So if there isn't a national strategy and there isn't a national framework around these qualitative elements then the powers that be locally will always say this is what this is, what we get measured by, and it doesn't look good. And and I'm. I'm in the, you know, to a degree. I'm in that box as well because, you know, I like to see, you know, we'll like to see greens across the board, don't we? We don't like to see Reds on there because it has that it's that visceral element to it, isn't it? When you see a red, it's just like God.*
>
> *Site B, commissioner*

Explanatory model of the refined programme theory

In addition to the detail of the RPT outlined above, we also refined and developed an explanatory model based upon the conceptual model of barriers and facilitators developed in the MS (*Figure 27*).

This refined model incorporates the additional context of resources and demands. Optimal service delivery is thus conceptualised in five contexts (operating at systems and services levels), which are presented as a Venn diagram to indicate the overlapping and interactive nature of their contribution to optimal service provision regarding the outcomes of access, engagement, retention and successful exit. The importance of a person-centred approach is maintained by placing service users at the centre of the model and by recognising that service delivery is impacted by wider political, cultural and social influences.

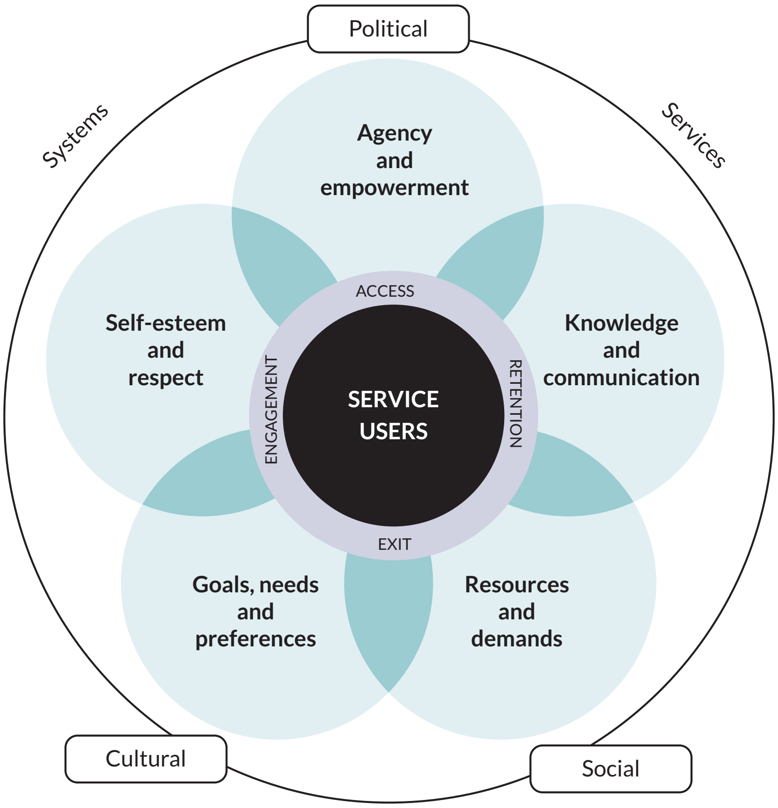


FIGURE 27 Explanatory model of RPT.

Chapter 6 Methods and results of phase 2b (costing analysis)

The costing analysis aims to estimate the additional staff costs of implementing the characteristics of 'optimal' OST provision identified by the qualitative RE. This was originally planned to be conducted across all sites but was curtailed for logistical reasons and data access restrictions. The realist review identified high workload for staff delivering OST as a key factor inhibiting service provision and recommended introducing a salary increment scheme as one potential intervention to help ameliorate staff turnover. We use routine data to assess SCW capacity in one of the case study services, site A. We record how staffing levels have changed over time, explore the impact on workload and estimate the increase in staff required to achieve a caseload of 50 per full-time equivalent (FTE) staff member. The target for an optimal caseload of 50 per FTE worker was specified by the service manager for a shared care service within the context of Black's statement that 'Good practice suggests a caseload of 40 or less, depending on complexity of need' (Black, 2021).[122] We record the staff turnover and estimate the additional cost of introducing a salary increment scheme. Nevertheless, additional interventions to reduce caseloads and increase work satisfaction would likely be needed to improve staff retention and recruitment.

Methods

The mean caseload of SCWs in site A was estimated using anonymous event-level treatment data for both SCWs and service users within site A, and it was accessed from the local electronic service user records, which provides data for the National Drug Treatment Monitoring System. The treatment data covered the 13 weeks from April to June in 2023, 2022 and 2019. The 3-month period data for 2021 and 2020 were not requested due to the potential impact of the COVID pandemic. The April–June period was chosen to avoid periods of potentially comparatively high sessional staff leave. The 13-week duration reflected a requirement to minimise the burden on the local authority analytics team and service staff to provide data.

There was a considerable variation between staff in workload in terms of appointments booked, and we sought to quantify how this impacted on the use of staff capacity. However, the routine data record some appointments under their name of staff on leave, rather than the worker who saw the service users, which inhibited the staff-level analysis. Five SCWs were appointed as 'senior practitioners' (two in 2022 and three in 2023). These staff covered for colleagues on leave and did not have their own caseload.

The number of additional FTE workers required for a caseload of 50 per FTE worker was estimated for each period. Data on staff FTEs and years of employment were provided by the OST service for the 3-month periods in 2019, 2022 and 2023. The salary-related cost of the additional FTE workers required for a caseload of 50 per FTE worker was estimated using a unit salary cost of a FTE worker on spinal point 15 (£27,803) of the 2023–4 National Joint Council for Local Government Services pay scale (NJC, 2023).[123] The senior practitioner salary level was estimated as £32,076 (spinal column point 23). Salary oncosts and overheads were estimated to be 35% of the salary cost. Several staff were on long-term leave in each time period due to sickness, maternity, secondment or sabbatical. We used the long-term leave data provided by the OST service to estimate the available staff capacity, as well as the full staff capacity, in each period.

The initial additional annual cost of introducing an illustrative salary increment scheme was calculated using data on the years of employment for each SCW and an estimated unit salary cost of a FTE worker and selected increment costs from the same pay scale: spinal column points 17 £28,770, 19 £29,777 and 21 £30,825 (NJC, 2023).

Appointments were defined as any activity with a service user by telephone or face to face, which comprise of either an assessment, alcohol or opiate detox link service appointment, or opiate stabilisation, maintenance or detox appointment. Staff had different working practices. For example, some full-time staff booked appointments over 5 weekdays, while others booked appointments over 4 weekdays. For the purpose of comparison, we assigned 50 'working days' to a FTE staff member during each 13-week period. The equivalent FTE staff level was calculated for each period by summing the FTE of staff members, which was then used to estimate the number of effective days worked by multiplying this figure by the assigned working days value of 50. The number of service users seen in each period was combined with the equivalent FTE to identify the staff caseload at the time as well as what increase in FTE would be required to achieve a caseload ratio of 50 patients per FTE staff member, for which a unit salary cost could be applied to provide a costing estimate for the increase. Unit salary costs of salary increments were applied to staff members based on years of experience within the service to estimate the initial annual cost of implementing a salary increment scheme.

To assess the impact of differences in service user complexity on staff workload, univariable and multivariable linear regressions were performed using service user-level data, with total appointments booked as the dependant variable and substance use type, opiate use in the last 28 days and housing problem as covariates. As factors resulting in both having more complex requirements and less engagement with the service could result in less data on the service user being collected, the regression analysis was repeated, including missing data as a category to assess whether service users with missing complexity data had differing amounts of appointments booked. The analysis was undertaken using Stata® 18 (StataCorp LP, College Station, TX, USA).

Results

Staff characteristics

The FTE staff capacity decreased between the 13-week periods in 2019 and 2022 and then increased in 2023 (*Table 5*). Long-term leave accounted for 5% (1.4/26.0) of the FTE capacity in 2023 and by taking long-term leave into account, the available FTE capacity increased by 8% (1.9/24.6) between 2019 and 2023.

There was a high turnover in staff over time, with 60% (18/30) of available staff in 2023 having also worked in the service in 2022, and this experience compares to 58% (15/26) of available staff in 2022 having also worked in the service in 2019. The FTE staff with < 2 years employment in the service increased from 22% (5.3/23.7) in 2019 to 26% (5.6/21.4) in 2022 and 48% (11.7/24.6) in 2023 (*Figure 28*).

Service user characteristics

Some levels of service user complexity, in terms of substance type and the number of days of opioid use in the last 28, had a significant effect (at the level of $p < 0.05$) on the number of appointments booked (*Table 6*). Service users who reported taking other substances in addition to opioids had more appointments booked, as did those who had housing

TABLE 5 The OST SCW characteristics and activity

	13-week period			% change between	
	2019	2022	2023	2019 and 2022	2022 and 2023
SCWs					
All SCWs	29	29	30	0.0	3.4
Full-time SCWs	15	15	14	0.0	−6.7
Part-time SCWs	14	14	16	0.0	14.3
Staff FTE	25.2	24.4	26.0	−3.2	6.6
Available staff FTE	22.7	21.4	24.6	−5.7	15.0
Service users					
Service users with at least one appointment booked	1731	1775	1668	2.5	−6.0
Appointments booked	6564	5590	5357	−14.8	−4.2
Mean appointments booked per service user	3.8	3.2	3.2	−15.8	0.0

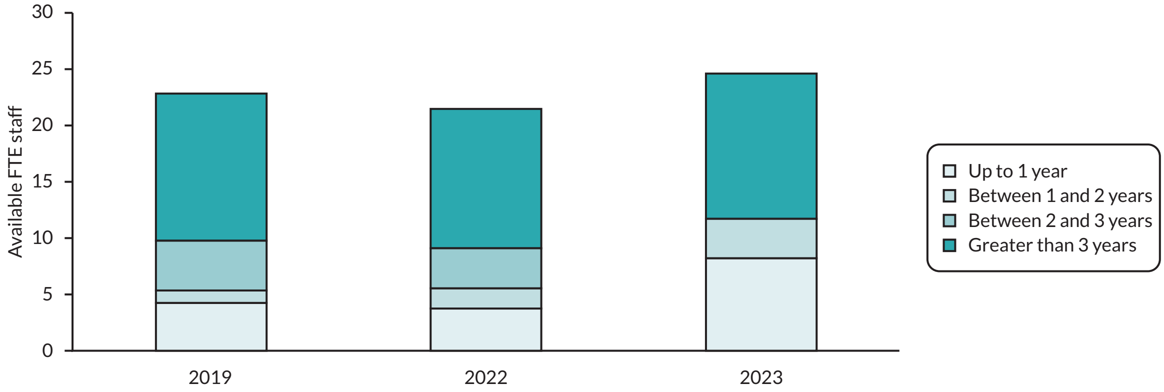


FIGURE 28 Available FTE staff by years of employment in the service in each period.

TABLE 6 Regression model results: factors associated with mean appointments booked per service user

				Univariable				**Adjusted**			
Covariate	***n***	**Mean**	**SD**	**Coefficient**	***p***	**95% CI**		**Coefficient**	***p***	**95% CI**	
Substance type											
Opiate	661	3.16	1.68	Ref.				Ref.			
Alcohol	3	3.67	3.51	0.50	0.61	−1.41	2.42	0.73	0.45	−1.16	2.63
Non-opiate	6	3.17	1.47	0.00	0.99	−1.35	1.36	0.24	0.73	−1.11	1.58
Non-opiate + alcohol	3	3.33	1.15	0.17	0.86	−1.75	2.09	0.17	0.86	−1.72	2.07
Opiate+	584	3.46	1.77	0.30	0.00	0.11	0.48	0.32	0.00	0.13	0.51
Opiate + alcohol	159	3.48	1.63	0.32	0.03	0.03	0.62	0.30	0.04	0.02	0.59
Opiate + non-opiate	1952	3.38	1.67	0.21	0.01	0.06	0.36	0.19	0.01	0.05	0.34
Opiate + non-opiate + alcohol	781	3.46	1.69	0.30	0.00	0.12	0.47	0.30	0.00	0.12	0.47
Opioid use last 28 days											
0	2356	3.3	1.6	Ref.				Ref.			
1–7	719	3.5	1.69	0.20	0.01	0.06	0.34	0.13	0.06	−0.01	0.27
8–14	462	3.48	1.56	0.18	0.04	0.01	0.35	0.09	0.27	−0.07	0.26
15–21	145	3.8	1.66	0.50	0.00	0.22	0.79	0.37	0.01	0.09	0.65
22–28	467	3.34	2.2	0.04	0.64	−0.13	0.21	−0.05	0.57	−0.22	0.12
Housing problem											
No	3673	3.35	1.66	Ref.				Ref.			
Yes	476	3.57	1.94	0.22	0.01	0.06	0.38	0.15	0.07	−0.01	0.31
13-week period in year											
2023	1188	3.22	1.59	Ref.				Ref.			
2022	1407	3.13	1.49	−0.09	0.17	−0.22	0.04	−0.08	0.21	−0.21	0.05
2019	1554	3.71	1.88	0.49	0.00	0.36	0.61	0.47	0.00	0.34	0.60

CI, confidence interval.

problems. The more days within the previous 28 that opioids were used was also associated with significantly more appointments booked, with the exception of service users who had done so for 22–28 days. However, the regression coefficients were all small at less than one additional appointment booked when compared to the reference level. This significant but small effect was also seen when including missing complexity data as a category (see *Appendix 4*, *Table 9*). Having accounted for measures of service user complexity, the mean number of appointments booked per service user was lower in 2023 (3.2) compared to 2019 (3.7) (*Table 6*).

Activity and caseload

During the 13-week period in 2023, 1668 service users had a least 1 of the 5357 appointments booked, with 3.2 appointments per service user booked on average (see *Table 5*). The 24.6 FTE available staff working over that period had, on average, 4.4 booked appointments per effective working day (*Table 7*). This represents a mean caseload of 67.8 service users per FTE available staff (see *Table 7*). If the service had been operating at full staff capacity, without any staff on leave, the equivalent mean caseload per FTE staff would have been 64.2 service users.

If the staff continued to work in the same way as 2023, on average, and experience 5% long-term leave, the FTE staff capacity would need to increase by 35.6% to achieve the 33.4 FTE staff required for a mean caseload of 50 service users per FTE (*Table 7*). If operating at full capacity, a 28.3% increase in FTE staff would be required (see *Table 7*).

Staff costs

The additional annual staff cost for increasing staff capacity from 24.6 FTEs to 33.4 FTEs would be 32.5%, £328,798, when costed at spine point 15 of the National Joint Council for Local Government Services pay scale (see *Table 7*). If operating at full staff capacity (26.0 FTEs), the increase in annual staffing cost would be 27.3%, £276,251.

The introduction of an illustrative salary increment scheme with three annual increments would entail a 3.5% increase in annual staffing cost in 2023, representing £35,726, resulting in a combined additional cost of £311,977 for the estimated 33.4 FTEs associated with a caseload of 50 service users per FTE (see *Table 7*).

TABLE 7 Shared care worker characteristics and activity: 'available staff capacity' and 'full staff capacity'

	Available staff capacity[a]			% change between		'Full staff capacity'[b]			% change between	
	2019	2022	2023	2019 and 2022	2022 and 2023	2019	2022	2023	2019 and 2022	2022 and 2023
Equivalent FTE staff	22.7	21.4	24.6	−5.7	15.0	25.2	24.4	26.0	−3.2	6.6
Mean appointments per working day	5.8	5.2	4.4	−10.3	−15.4	5.2	4.6	4.1	−11.5	−10.9
Effective days worked	1137	1072	1228	−5.7	14.6	1259	1221	1301	−3.0	6.6
Patient : FTE staff ratio	76.3	82.9	67.8	8.7	−18.2	68.7	72.8	64.2	6.0	−11.8
FTE required for a patient : staff ratio of 50	34.6	35.5	33.4	2.6	−5.9	34.6	35.5	33.4	2.6	−5.9
% increase in FTE required for a patient : staff ratio of 50	52.5	65.9	35.6	25.5	−46.0	37.4	45.5	28.3	21.7	−37.8

continued

TABLE 7 Shared care worker characteristics and activity: 'available staff capacity' and 'full staff capacity' (*continued*)

	Available staff capacity[a]			% change between		'Full staff capacity'[b]			% change between	
	2019	2022	2023	2019 and 2022	2022 and 2023	2019	2022	2023	2019 and 2022	2022 and 2023
Increase in annual staff cost at spinal column point (SCP) 15 for a patient : staff ratio of 50 (£)	447,406	529,230	328,798	18.3	−37.9	353,571	416,628	276,251	17.8	−33.7
% increase in annual staff cost at SCP 15 for a patient : staff ratio of 50	47.0	56.2	32.5	19.6	−42.2	35.7	44.3	27.3	24.1	−38.4
Increase in annual staff cost for introducing pay increments (£)	75,309	49,325	35,726	−34.5	−27.6	75,309	49,325	35,726	−34.5	−27.6
% increase in annual staff cost for introducing pay increments	7.9	5.2	3.5	−34.2	−32.7	7.9	5.2	3.5	−34.2	−32.7
Increase in annual staff cost adjusted for pay increments for a patient : staff ratio of 50 (£)	558,586	613,806	380,524	9.9	−38.0	428,880	465,953	311,977	8.6	−33.0
% increase in annual staff cost adjusted for pay increments for a patient : staff ratio of 50	58.7	65.2	37.6	11.1	−42.3	45.0	49.5	30.8	10.0	−37.8

a Staff working (excluding those on long-term sick leave) during 13-week periods.
b If all staff employed were working during the 13-week periods, assuming 50 working days.

Comment

The costing analysis relates to one OST service in one site. The mean caseload per FTE is a crude measure of performance, as it assumes that the average workload per FTE represents the optimal use of staff capacity. In practice, the variation in appointments booked per effective working day was considerable even though some of the variations would be due to some appointments being booked under the name of staff on long-term leave rather than the individual who saw the service users. It may be that some existing staff capacity could be deployed more efficiently and so the analysis presented here may overestimate the increase in FTE staff required to achieve a caseload of 50 service users per FTE in this type of shared care service.

Nevertheless, the extent of the challenges represented by high levels of staff caseload, staff turnover and long-term leave is illustrated in this service. Further analysis of activity data would afford a greater insight into the extent to which the use of existing capacity could potentially be improved. However, it is apparent that the introduction of a salary increment scheme could have a comparatively modest impact on staff costs, while the findings of the review indicate that this could lead to a higher retention of more experienced members of staff and as such warrants consideration.

The pattern of activity between the three periods has changed, both in regard to staffing and service user levels. Equivalent FTE staff numbers increased between 2019 and 2023 and, over this period, the mean number of appointments booked per service user decreased. Overall, this change in the pattern of activity would allow staff to spend more time with the service users within booked appointments, which would be in line with the improvements identified within the realist review.

Further analysis of worker-level use of funded capacity would enable a better insight into how the existing service capacity is utilised and the extent to which capacity may need to be increased to achieve an optimal service provision. This would require improvements in routine data collection in the case of this service. More generally, there may be a variation in the funded staff capacity across services and how the existing capacity is utilised. Nevertheless, the analysis presented here provides some insight into the scale of cost implications associated with addressing workload challenges.

Chapter 7 Discussion/interpretation

The findings of our multi-method study provide a comprehensive and in-depth understanding of OST and NSP provision.

Meta-synthesis and online survey

Findings from our MS of qualitative studies indicate that, regardless of where in the world and when in the past they were being delivered, services were not operating optimally with regard to successful access to, engagement with, retention in and exit from OST and/or NSP. Our findings indicate that various factors overlap, interact and change over time, reflecting some overlap between four key overarching themes (power and control; stigma; knowledge and information; and goals, needs and preferences). Mounting evidence emphasises the importance of understanding healthcare service delivery in terms of relational interaction. Rather than view barriers as residing in any one independent domain, the client-centred relational framework positions them as interactive, with the service user at the centre of service provision. Our synthesis drew on this framework to develop a conceptual explanatory model.

Findings from the MS indicate that service users have described feeling powerless and over-regulated and thus lack control in their dealings with OST and NSP services. Inflexible, restrictive and coercive practices can lead to a lack of autonomy, dissatisfaction, engender various fears and thus act as a barrier to service uptake. Stigmatisation within systems and services and enacted stigma from service staff and from other service users were further identified barriers. Monitoring and surveillance by services can impact on the issues related to service user identity, trust, experiences of confidentiality and anonymity and thus influence service access, engagement, retention and exit. Service user knowledge and beliefs of the potential negative impacts and consequences of treatment, and in relation to drug harms, and the information they receive, were important in influencing OST and NSP service uptake. This highlights the importance of service users being made aware of services and supported to make informed decisions. It also underlines the importance of partnership working between services to ensure that they disseminate and communicate to enhance the awareness of services and routes of access. Person-centred services that are capable of meeting different treatment goals and wider needs, and providing options and choice that cater for different preference, as with all health and social care service deliveries are essential. The provision of a range of services offered at different thresholds and from which service users have choice appears to be important. Furthermore, services that provide options and choice regarding wider supports, especially within an on-site wrap-around model may facilitate successful access, engagement, retention and exit. Successful access to services can lead to an increased engagement with those services when there is a sufficient range of options available that meet individual goals, needs and preferences which go beyond obtaining a prescription or injecting paraphernalia. Service users may have a range of different treatment goals and thus successful outcomes will differ between individuals.

Staff recognise that successful short-term engagement requires the design of systems and services that ensure that commonly identified facilitators to engagement (e.g. rapid and convenient access, availability of low-threshold services, tailored treatment plans and access to accurate knowledge and information) can mitigate any barriers (e.g. autocratic, inflexible and outdated approaches; strict rules that limit choice and care and support delivered by untrained or unskilled staff). Continued engagement with services enables some service users to start the journey toward longer-term goals and offers hope for the future, for example, long-term stability, long-term abstinence and/or continued harm reduction. The continuation of valued support beyond abstinence is viewed as important to achieve the longer-term outcome of successful exit from services. What successful exit from services looks like will differ between individuals. It appears to be important for everyone though that having the agency and ability to satisfy and achieve further goals, needs and preferences, such as the desire to maintain employment, address other health concerns, satisfy child care responsibilities and the freedom to enjoy activities ‘like everybody else’, are important exit outcomes. Additionally, the ability to engage in activities that give a sense of what individuals perceive to reinforce a normalised identity is an essential outcome for study participants regardless of their treatment goals.

Prior to conducting the study, it had been hoped that the findings from the MS would contribute to an understanding and development of an IPT that could then be tested in an in-depth qualitative RE. Indeed, the findings did contribute significantly to an understanding of a range of contexts and mechanisms that appear to be important. Data from other sources supported the posited IPT. The results of our online survey of commissioners across the UK, although severely limited by a very low response rate, does give some insight into service delivery models. The findings from the online survey were triangulated with the findings from the MS to understand the contexts and mechanisms by which OST and NSP services may optimally deliver the outcomes of successful access to, engagement with, retention in and successful exit from these services.

Realist evaluation

We tested the identified IPT (constituting the contexts of power and control; stigma; knowledge and information; goals, needs and preferences) in a RE. As a result, it was developed into a RPT (constituting the contexts of agency and empowerment; self-esteem and respect; knowledge and communication; goals, needs and preferences; and resources and demands). While data from previous qualitative studies had identified the problems and deficits with the service delivery, data from the RE were helpful in understanding the optimal service delivery. Indeed, we noted a shift in language from a more negative usage in previously conducted qualitative studies to a more positive way of thinking about service delivery. For example, the context of power and control identified in our MS being better conceptualised and understood as agency and empowerment; stigma as self-esteem and respect; and knowledge and information as knowledge and communication. Within the contexts identified in the RE, we discovered that optimal service delivery (services that are more likely to provide opportunity for access to, engagement with, retention in and successful exit from services) can be achieved and understood with reference to one or more of several mechanisms.

Within a context of agency and empowerment, staff across the study sites appear committed to a *person-centred approach*, making every effort to proactively ensure that service users are supported at point of need when accessing the service and viewing access as a right for service users. Staff recognise the fundamental importance of actively and purposefully listening to service users to deliver a service user-led service. We identified a range of conditions that are important to ensure that a person-centred approach can take place (e.g. proactive case management, consistency of key worker and purposeful listening to service user need). These, in turn, can increase and positively reinforce the mediating mechanisms of trust, motivation and feelings of self-efficacy, which may then result in improved access, engagement, retention and successful exit. Other mechanisms in this context involve the delivery of services that are tailored, non-punitive, non-restrictive harm reduction approaches, which make minimal demands of service users (low-threshold services); that service users have direct access to those involved in their care; and that service users are empowered via a person-centred approach to make decisions regarding treatment. Across the study sites, services are delivered via pathways that include a range of different tailored approaches to suit different treatment goals. For example, all sites have a mandatory initial period of stability where service users are provided with same-day access to OST, assessment, provision of a key worker and are supported to achieve a person-centred optimal dose of OST. Across the study sites, there is evidence that self-referral to OST and NSP provides service users with the agency to engage with services when they are motivated to do so. There is evidence that the mechanism of self-referral may increase the reach of services to include those with unmet need.

We found that, within a context of self-esteem and respect, it is important that service staff recognise the importance of confidentiality and a non-stigmatising approach, and that service users are supported to develop strengths-based competencies, recovery capital and self-esteem. Confidentiality and non-stigmatising approach are essential for fostering and maintaining self-esteem and respect among people using OST and NSP services. This can lead to positive relationships, increased confidence, trust and thus engagement with, and retention in, services. There is evidence of some excellent areas of practice, especially in terms of a staff commitment towards a non-stigmatising and understanding approach. Tolerant, compassionate and supportive approaches are facilitated by an understanding of the importance of moving away from a zero tolerance policy (abstinence) and towards the inclusion of harm reduction approaches. A policy of non-judgemental understanding towards honesty from service users is especially valued. This ensures that there are no unsubstantiated and hasty reactions to any possible duty of care issues. It is also recognised that a non-judgemental approach can lead to positive therapeutic relationships, where service users are more likely to trust staff and be more open about their wider goals, needs and preferences. Our analysis also indicates that if service users are supported to develop strengths-based competencies, recovery capital and self-esteem, this can lead to the development and maintenance of positive social networks and a sense of belonging and purpose. Recovery as a goal may thus be possible, leading to engagement and retention with services and the increased likelihood of successful exit from treatment and support.

Within a context of knowledge and communication, optimal service delivery can be achieved and understood with reference to three mechanisms: All stakeholders proactively encourage partnership working. A peer network programme is embedded into the core service. Staff have the knowledge and skills required to provide high-quality care. Partnership working is recognised as being important and required between a wide range of services. Where commissioners and service managers proactively encourage partnership working with other allied services, this may encourage effective communication and knowledge sharing, leading to sustained partnerships and streamlined signposting to essential alternative services. Recognising and building upon the importance of exceptional individuals in forming effective knowledge and communication between partners, services can move towards creating service-level mechanisms and resources to ensure that the core service can maintain and benefit from excellent and sustained partnership working. However, partnership working is not always ideal or optimal. There are examples of a lack of understanding between the agencies, for example, where there is separation of delivery of initial assessment and subsequent ongoing care. There is also a lack of communication, which appears to limit the ability to develop good partnerships and may even lead to negative views of organisational culture. While partnerships exist, there is evidence that some would appear as less than optimal.

A peer network programme of people with lived and living experience of drug use, embedded into core drug services, is recognised as an important mechanism for mobilising and communicating peer knowledge, leading to an optimal service delivery. An optimal service is likely to ensure that peers are embedded within each part of the pathway, and where this is taking place already, this should be supported and resourced to ensure that this valued addition to the core service is sustained.

The knowledge and skills of all staff working in and supporting the delivery of OST and NSP are important mechanisms for optimal service delivery. Staff regularly trained and supported in developing and maintaining their job-specific knowledge and skills ensure optimal levels of staff competency, meaningful and accurate communication and service user trust.

Within a context of goals, needs and preferences, our analysis indicates that optimal service delivery can be achieved and understood with reference to four main mechanisms: recording system(s) are fit for purpose to manage care plan reviewing effectively; a commitment to providing services that facilitate a shared ethos, understanding and responsibility between all key stakeholders; access to a full range of services to meet treatment goals and wider needs; appointments take account of service user needs and preferences, and staff are given time and resources to facilitate a proactive approach to meet these.

Effective systems for recording and sharing information are important in meeting the goals, needs and preferences of service users for several reasons: they can allow a structured approach to care planning and case management via person-centred information they capture; they can offer an information-rich mechanism to manage continuation of consistent care and aid the direction of resources to unmet need; and they can also present as a good tool for management purposes, allowing caseloads and service user progress to be monitored.

A shared understanding and responsibility between different services and organisations in the OST/NSP service pathway is also important in a seamless service user journey towards supporting service users to meet their needs and preferences and to achieve their goals. It is suggested that, in Scotland, the MAT standards may be an important mechanism to encourage a shared ethos, understanding and responsibility across all staff and services in the OST/NSP pathway.

Evidence indicates that a range of harm reduction, drug treatment and ancillary or 'adjunct' interventions should be available to meet the goals, needs and preferences of service users. In the RE, the addition of 'safer' benzodiazepine prescribing was highlighted by some service managers and service users as a potentially important additional option to improve access and engagement in services. However, a recent systematic review of benzodiazepine prescribing alongside opiate substitutes found that it was associated with an increased retention in services and also an increased risk in overdose mortality.[124] This suggests that caution is required regarding the implementation of this intervention. There was also considerable heterogeneity and control of confounding (such as comorbidity) in the studies in the review. Policy-makers and service staff already involved in benzodiazepine prescribing will require more stringent clinical guidance and safeguarding to balance the risks (overdose) and benefits (reduced street use and retention) of this additional intervention alongside OST. We note that there is a new trial on the effectiveness and cost-effectiveness of safer prescribing of benzodiazepines to people in OAT who are dependent on both opioids and benzodiazepines.[125] In addition, there are evaluations of the new supervised drug consumption room in Glasgow,[126] the first HAT service in Scotland[127] and the development of a model of drug-related deaths in Scotland to test the impact of current interventions and to consider alternative approaches to the delivery of harm reduction interventions.[128] These are important future steps, given the need to improve the range of safe and effective services available to people who use drugs.

It should also be noted that it is not necessarily about the provision of individual services but also a range of delivery pathways. Pathways tend to include shared care (GP/core drug service share the care), statutory service provision (NHS-led services) and services led by the third sector (charitable not-for-profit and other private organisations). However, a distinction can also be made regarding the context within which services are delivered (e.g. a hub system, whereby all services are provided within a ‘one-stop-shop’ context; outreach services, where specific populations are targeted and interventions are mobile; and a core prescribing service that refers out to other services). Optimum service provision is likely to involve a combination of these three main service delivery pathways within which specific treatments and services can be optimally delivered. The importance of approaches to the delivery of flexible, tailored and proactive services is recognised. Across the study sites, there are limited examples of where staff do have time to take an in-depth and proactive approach. This can lead to service users achieving success from their treatment, such as consideration of their treatment goal, but especially regarding issues that go beyond an OST prescription (such as custody of children). When an in-depth and proactive approach to the delivery of care is taken, and needs are met in collaboration with established partnerships, it can be very effective, but it does require the appropriate staffing to deliver.

The HCV elimination is one area of need that services have focused on. Progress towards the elimination of HCV in the general population has been enhanced with the development of direct-acting antiviral HCV medications and national scale-up interventions for testing and treatment. However, the incidence of HCV reinfection, especially among at-risk groups (people who inject drugs), threatens to negatively impact on the achievement of HCV elimination.[129] There is currently a dearth of evidence investigating the barriers and facilitators to people engaging with follow-up testing once they have been cured of HCV (with treatment or spontaneously without treatment), or the intervention characteristics that may increase engagement with follow-up testing or a reduction in reinfection. This presents limitations for the development of an effective evidence-based strategy in response. Our study found that an initiative in one of the study sites to provide wound care, assessment of injecting risk, naloxone distribution and dry blood spot testing for BBV infection was found to be a model of best practice for optimal engagement and retention with NSP services. This initiative worked by providing a £20 redeemable voucher to patients and encouraged them to return for follow-up assessments every few months. This appeared to be a successful intervention in terms of addressing multiple health needs and preferences of patients, especially in terms of scaling up regular and continued access to wound care, sterile injecting equipment, HIV and HCV testing and treatment. It is possible that this type of intervention could also improve engagement with follow-up BBV testing for people who have successfully completed HCV treatment but may still be at risk of reinfection. More research is required to understand how to prevent reinfection. In addition, a recent modelling study has identified the need for drug services to engage more with HCV testing and treatment activity to support WHO targets for the elimination of HCV.[130] The findings of the RE could facilitate the optimisation of harm reduction provision, making it more likely that drug services have the capability of supporting this important goal.

Findings from the RE indicate the importance of the context of resources and demands. This context was not present in the IPT. Our analysis, leading to a RPT, suggests that optimal service delivery can be achieved and understood with reference to five main mechanisms in this context. The first of these is the importance of understanding service demands to inform service delivery and design so that resources can be allocated appropriately. To understand service needs and demands, it is important to consult with all key stakeholders. The views and experiences of service users and staff are important mechanisms to meaningfully understand service demand and thus ensure that resources are allocated appropriately. There is evidence across all study sites of service users and peer workers being formally consulted regarding their experiences of services. There are examples, from two study sites, of service users actively being consulted specifically at the commissioning level. It is possible that a formalised approach can contribute towards the development of a shared ethos of service delivery towards meeting the goals, needs and preferences of service users. This underlines the overlap between the contexts of resources and demands, knowledge and communication and goals, needs and preferences. Formalised approaches to consultation with staff appear to be very limited, although in one site, there is evidence of formalised approaches being taken to inform staff and to take feedback form staff regarding any changes in service delivery. However, ad hoc approaches to consulting with staff seems to be more common, especially where there exist strong cohesive staff teams.

A further mechanism recognises the importance of staff being supported and resourced to overcome barriers to their ability to effect good treatment outcomes and to work effectively and efficiently in their demanding roles. Staff are one of the most valuable resources in the provision of optimal services. They face many demands, challenges and burdens and require support to be effective in their roles so that they can engage in work that they find rewarding (e.g. service user-centred care and delivery of therapeutic interventions). This support is best delivered via effective supervision, reflective practice and strong adaptive teams. Managing stress and promoting well-being are crucial and involve reducing the possibility of burnout and ensuring that services are well resourced and not spread too thinly. High caseloads are a particular burden and should be capped at levels that allow staff to deliver a person-centred high-quality service. Furthermore, interviews with staff highlighted the importance of adequate and regular training that ensures they have the necessary skills and knowledge to cope with the demands of their role. It is also recognised that it may be crucial for core services to receive adequate, reliable and sustained resources to create the right circumstances for good recruitment and retention of staff. An optimal service could be considered to require to attract and retain a skilled and motivated workforce; however, across all the study sites, this is a significant problem that needs resolution. The findings suggested the importance of providing attractive career pathways across a range of different roles such that those who enter the service being made aware of possible career trajectories and those already in the service being facilitated to plot future career progression. It is recognised by participants that core services may need to ensure that there are adequate staffing levels, with workers who have the necessary skills and aptitude for a range of demanding roles, and that skilled and valued staff are retained and not lost prematurely. Staff suggested that remuneration commensurates with the knowledge and skills required, and with the demands that various roles entail, could increase staff retention, especially where other demands are not overburdensome. A lack of staff (in core services and the third sector) is viewed as a significant resource shortage that impacts on the ability of staff to provide a high-quality service. Staff suggest that they work very hard under difficult circumstances but are unable to satisfy the needs of service users due to restricted staff resources. Although there is some evidence from staff that strategic priorities are an important facilitator to the provision of services that meet the goals, needs and preferences of service users (e.g. provision of same-day prescribing), with staff shortages (especially a shortage of those that can prescribe), delivering these priorities can further reduce the capacity of staff to be able to offer a wider range of support. Staff suggest that current demands on the service may require service users to be highly organised and structured and attend scheduled appointments so that workloads can be managed more efficiently and effectively. However, it is stated that service users are often chaotic and that, in this real-world environment, current staff resources are unable to meet service demand, especially as significant time and effort are often required to follow up with non-engagement (which an optimal service should be doing anyway).

Poor staffing levels appear to be an industry wide problem, and although there is evidence that the services across all three sites are still managing to keep services running, they are struggling to cope. However, the cost of coping with current demand may be to the detriment of staff health and well-being.

A further mechanism with the context of resources and demands indicates that funding of core drug services and wider drug service-related initiatives needs to be sufficient, reliable and accessible. There is recognition, across all participants, that core drug services are less than optimal due to underfunding. A range of general and specific factors are implicated in this underfunding, not least the knock-on effects of austerity. There is evidence to suggest that, besides increases in funding, the mechanism of allowing for lengthy stable funding periods between commissioning cycles is highly desirable. It should be noted that most of the data contributing to the mechanisms described here relate to stakeholder reflections on the suboptimal nature of budgets and funding. National strategies are viewed as potentially important top-down mechanisms and facilitators towards positive service development. There is some evidence that the latest drug strategy in England and Wales has resulted in money being available to focus on service improvement. In Scotland, the MAT standards are viewed as an important mechanism which could be mobilised as a driving force for actual change towards the provision of appropriate and secure funding to provide optimal services. There is some evidence to indicate that commissioners would like a national framework that facilitates them to work in partnership with government and thus to develop strategies that work in the local context, especially regarding development of the available workforce. Commissioners would also like more of a voice at the national level, as they see themselves as the experts of their local context. However, commissioners also see a national strategy as having the legitimacy to push change in the right direction and improve services, especially regarding ensuring consistency of opportunities for successful service user access, engagement, retention and successful exit with services. The funding of services that provide OST and NSP is provided for a specific period, after which services must tender to continue to provide those services. The funding cycle of commissioning and recommissioning services varies across sites. Our current understanding is that core services in site A have a commissioning cycle of 3 years. Indeed, since site A adopts a shared care model, all services (core or otherwise) operate on a 3-yearly commissioning cycle. There is some evidence that short recommissioning periods can be unsettling for staff, leading to a loss of expertise and experience in the industry as people reconsider the option of moving to work for a different supplier who provides a similar service once their current employer loses a contract. Some staff of other services suggest that a recommissioning process of 3 years is difficult to navigate and manage, because it comes with the stress of having to make regular additional bids to continue funding for their service while also juggling with the day-to-day activity of running the service. It also has implications for the jobs of their staff and for their own income and the stability of the staff who provide a service that supports the core service. It is suggested that the commissioning process should not involve different organisations bidding against each other for the same contracts every 3 years, alluding to the need for longer periods for current organisations to be more concentrated on developing the quality of current systems and pathways. It is possible that short funding periods can encourage competition between providers rather than fostering partnership working. It is possible that in an environment of competition, the priority of services becomes the achievement of ‘hard’ targets and in securing future tenders for service delivery. This is potentially to the detriment of developing positive relationships with partner organisations and in delivering a quality service. It is suggested that secondments could be a good way to improve partnership working and perhaps develop a shared ethos between organisations towards quality of service as opposed to efficiency and winning contracts.

The final mechanism in this context indicates that a range of KPIs need to be measured to direct effective service delivery, ensuring provision remains person-centred. An optimal service requires a range of different outcomes to be considered when setting targets to be achieved. KPIs are measurable values that can determine how effectively a service, staff member, team or organisation is achieving an objective. KPIs can also help a service to determine if they are optimising their resources on the appropriate strategies to achieve strategic goals. KPIs should include ‘soft outcomes’ that measure a range of things that are important to service users and staff as well as ‘hard outcomes’ related to more general epidemiological treatment outcomes (e.g. number of people in treatment, length in treatment, waiting times and treatment exits).

There is evidence across sites that KPIs may be a useful tool to monitor and justify how effective services and staff may be performing, which can also be used to justify a service’s existence. KPIs may also motivate services to direct resources towards achieving results in strategic priority areas set out by policy-makers. There is some evidence that hard targets, although useful, can be negative for services, especially if softer targets are not measured (such as motivation to engage and small behaviour change victories in line with a service user’s treatment goal). Hard targets are described as a ‘blunt tool’, suggesting that they do not account for the more nuanced targets that may be more important. It is suggested that a more rounded approach to KPIs is needed to ensure that services remain person-centred. One commissioner suggests that while ‘hard targets’ (such as the number of people who are successfully discharged from treatment following abstinence) are useful measures for some, there should be additional measures that quantify the support for people beyond the achievement of abstinence to include their wider needs, or long-term support to avoid relapse. For example, extending the definition and measurement of KPIs related to the concept of successful exit could motivate services to resource more continued contact and support for some people (perhaps, those who may consider their opiate use to be a long-term health condition). This could help to transform and reconceptualise the outcome measure of successful exit into one more aligned with the goals, needs and preferences of different service users. It is understood by many stakeholders that the development of appropriate and effective measures for softer outcomes will be a complex task. However, it is also seen as an important consideration to find a way to measure soft outcomes to drive service improvements towards an optimal person-centred approach.

Across all contexts, peers were found to be an important part of optimal provision, promoting agency and empowerment and helping to target important resources and demands through the co-design of services. They can enhance the delivery of important knowledge and information, and encourage self-esteem and respect, through their understanding of common experience and language. Peers can also facilitate service user goals, needs and preferences through the development of positive, trusting and effective relationships with service users. A recent systematic review of qualitative evidence supports that peers can benefit drug services at the service user, organisational and societal levels while also facilitating the personal and professional growth of peers.[131] However, the study by Chen *et al.*[131] and the RE found that there are organisational barriers to the successful embedding of peers within services. Ways to provide peers with agency and empowerment in their important role and structured approaches to the training and embedding of peers in service delivery are needed if services are to achieve optimal provision.

The theory of optimal provision developed through the RE was characterised by the contexts, mechanisms, and outcomes (CMO configurations). In addition, the client-centred relational framework[120] was the middle range theory that formed the explanatory model (see *Figure 5*) of the CMO configurations. This theoretical understanding positions healthcare delivery as interactive and overlapping, with the service user at the centre of service provision. The mechanisms within the five contexts (agency and empowerment; self-esteem and respect; knowledge and communication; goals, needs and preferences; and resources and demands) were found to be overlapping and interactive in their contribution to optimal service provision, suggesting the need to implement a strategy of optimisation that targets factors concurrently, with the ability to support wider health and social needs. Optimising harm reduction services has the potential to support ancillary and allied services to achieve wider health and social well-being outcomes. For example, the RE identified a collaborative model of best practice between a drug service and primary care mental health services. Regular multidisciplinary meetings and shared responsibility to support service user *goals*, *needs and preferences*, appeared to streamline access and engagement for both services. In addition, collaborative working appeared to facilitate better efficiency when working with patients and alleviated some of the issues regarding patients who were lost to follow-up or waiting for assessment and treatment. Additionally, a recent evaluation of HCV testing and treatment in England showed that (1) the substantial scale-up of HCV treatment in the community (including drug services and prisons) was likely to reach WHO elimination targets in three out of four sites modelled; (2) community scale-up of HCV treatment could be cost-saving in the long-run; and (3) the most cost-effective (and potentially cost-saving) intervention, if WHO targets were not going to be reached, was to increase the HCV testing and treatment in community drug clinics.[130] Intervention, that targets improvements within the context of resources and demands to reduce staff workload and their ability to engage in activity to support wider *goals*, *needs and preferences*, is likely to be an important facilitator to the elimination of HCV as a public health problem. There is a strong case for health systems to move further towards a whole-systems approach, benefiting from the transformation from independent outcome-focused systems, to policy and practice that foster integration and collaboration with other services, community and partnerships.[132,133] Whole-systems approaches have been successful for the improvement of a range of health intervention outcomes, including the health and well-being of healthcare workers[134] and the healthy management of weight.[135] Although the evidence suggests that whole-systems-orientated approaches are successful to improve various health outcomes, a challenge is how these types of approaches can be effectively operationalised.[132,135,136] Nevertheless, there are several examples of effective whole-systems approaches[134,135,137] and emerging research to guide policy-makers and practitioners on the best way to provide an effective infrastructure to facilitate the implementation of an effective whole-systems model of health service provision.[138] These resources could be drawn upon to support the development and implementation of a whole-systems-orientated response to suboptimal OST and NSP provisions in the UK. This is an important future step, given the central importance of drug services across other health-related outcomes, such as the improvement of mental health provision for comorbid patients, the reduction of drug-related death and reaching the WHO targets for HCV elimination in the UK.

Costing analysis

Our costing analysis used routine activity data for one of our English-based study sites to explore the staff capacity for delivering OST, as the high workload of SCWs had been identified by the realist review as a key factor in inhibiting service provision assess. Based on a 13-week period in 2023, the mean caseload was 68 per FTE staff members, and an increase in staff funding of 32% would be required to achieve a mean caseload of 50 based on the then available staff capacity. It should be noted, however, that the mean caseload per FTE is a crude measure of performance, and there may be scope to deploy staff capacity more efficiently and accordingly achieve a lower target caseload with a smaller increase in capacity. The costing analysis took place within one site only. Although increasing staff capacity and retention were highlighted as being key to service improvement across all sites, the cost implications will depend on local staffing levels, working practices and service user characteristics.

When comparing workload over time, it is apparent that the frequency of appointments booked per service user has reduced since the COVID-19 pandemic. This change would allow staff to spend more time with the service users within booked appointments, which would be in line with the improvements identified within the realist review.

Staff turnover increased markedly between 2022 and 2023, with the proportion of FTE staff with < 2-year employment in the service increasing from 26% to 48%. One response to this would be to introduce a salary increment scheme, and we illustrated the cost of a hypothetical scheme with three annual increment levels, which would entail a 3.5% increase in the annual staffing cost.

Overall, there is potential to optimise the use of staff capacity in line with some performance criteria and incentives, refinement in the recording of routine activity data and additional funding. The benefit of these approaches is that they may contribute towards the retention of skilled staff and may attract skilled professionals to work in this sector.

In addition, establishing specialist career pathways has the potential to substantially improve the recruitment and retention of a wide variety of much-needed healthcare specialists (e.g. specialist consultant psychiatrists, specialist nurses, specialist counsellors and specialist pharmacists), especially if staff are provided with career development opportunities. A recent review of literature suggests that organisations that focus on career development and employee satisfaction can increase employee retention.[139] This can be achieved specifically through the promotion of organisational goals, training and development and clear career ladders and supported career planning, which in turn can improve the effectiveness of an organisation. Professionalising the addiction workforce by recognising addiction as a legitimate medical speciality could be an important step towards optimal service provision.[140] Efforts to increase addiction training for healthcare professionals has improved in many areas of the world and has been successful in terms of improving knowledge, skills and attitudes related to addiction medicine.[141,142] However, few countries have recognised addiction medicine as a speciality.[140] A more uniform approach to addiction training in terms of content and accreditation, perhaps as part of larger specialist field, could further optimise services. Nunes *et al.* (2020) found that specialist addiction psychiatrists could provide an advantage for the evaluation and treatment of substance use and psychiatric comorbidities.[143] In support, the current study found that a specialist addiction psychiatrist based at site B improved partnership working between mental health services and drug treatment services, improving the evaluation and treatment outcomes for service users with comorbid issues. The UK government encourages the role of addiction specialist doctors as a vital resource for alcohol and drug services in terms of the supervision and appraisal of core competencies among staff, championing positive outcomes, providing clinical governance and innovation and improving partnership working with relevant professionals, including social care, criminal justice, housing, children and families, etc.[144] It is possible that the development of a wider specialist field of addiction in the UK, with clear career pathways, adequate remuneration, training and development, could improve a multitude of factors relevant to optimal provision, such as improved recruitment and retention of staff, the upskilling of the general workforce and improvements in partnership working between allied health professionals.

Chapter 8 Conclusions

This study has proposed five contexts (agency and empowerment; knowledge and communication; self-esteem and respect; goals, needs and preferences; and resources and demands) within which mechanisms of action at both systems and service levels can lead to the achievement (or not) of good/successful outcomes (access, engagement, retention and successful exit).

The contexts and mechanisms were found to be interactive and overlapping, particularly in relation to interacting with other services. Adopting a whole-systems or multiagency approach (such as integrating the delivery of OST and NSP with other allied health services) could facilitate the effective improvement in each of the contexts. For example, the recent multiagency community-wide approach to the elimination of HCV in the UK has achieved significant success.[145] This may require an increased staffing capacity within some drug services to better support HCV testing and treatment.

Overall, there is a requirement for more resources in the sector if optimal models of care are to be universally achieved. This is particularly related to staffing levels and caseloads, where caseloads need to be such that staff can work intensely and effectively with individual clients. Investment in staff training, particularly in communication skills, would also help to create 'contexts' that deliver optimal support to service users.

There is some evidence that peers form an important part of the success of drug services, improving access, engagement, retention and exit through the advantages of their lived experience. However, it would appear that this aspect of drug services can be underdeveloped, especially where other demands on services take priority. This highlights the need for drug services to resource and develop structured approaches to embed peers within service delivery.

Investment in multiagency information technology (IT) systems for better recording of information could facilitate cross-service communication and integration and also lead to efficiencies for staff time (reduce duplication of effort, having necessary and up-to-date information to hand). This could also enhance the recording of brief client outcomes and facilitate re-engagement where service users may be lost to follow-up.

There is currently an increasing array of treatment options, including prescribing of LAIB (mainly in Scotland and Wales), HAT, drug consumption rooms and (internationally) safe supply of substances. The availability and access to these multiple evidence-based harm reduction options could optimise the choice within services.

Pharmacological interventions are still the dominant focus for what is offered within drug treatment services. There is a continued need for more non-pharmacological support such as psychosocial interventions, including more wrap around services addressing broader health and social needs.

Finally, services should promote a culture that is empowering and positive for its users. There is currently a focus on tackling and addressing 'stigma' which may serve to re-enforce the concept that service users are 'stigmatised'. A more positive approach that encourages 'empowerment' and 'engagement' of service users in their treatment and care may be a better way to eliminate stigma.

Strengths and limitations

Realist methodology is a robust way to strengthen the validity and explanatory power of the theory of optimal provision that was created. A thorough MS of all existing qualitative research, and triangulation of this synthesis, with various stakeholders via PPI groups and survey data potentially enhanced the validity of the IPT. Thereafter, a large qualitative sample to test the initial theory is likely to have increased the validity of the refined theory of optimal provision. A RE is concerned with evaluating an intervention in terms of the causal mechanisms in particular contexts to achieve specific outcomes. The refined theory (CMO configurations) and the overarching theoretical model provide a deeper understanding of the interconnected and interacting mechanisms, across various contexts, that need to be optimised simultaneously, in terms of a multiagency approach, if OST and NSP services are to achieve improved provision. This could be considered to enhance the ability of the study to contribute to the development of evidence informed policy and practice. However, there were limitations across the mixed methods utilised in the study and the refined theory of optimal provision.

Survey

The survey achieved a very low response rate across only three of the four regions of the UK (only 32 responses; England 16%. Scotland 27%, Wales 33%), seriously limiting the generalisability of findings. Services were invited to complete the survey under lockdown restrictions during the COVID-19 pandemic. In retrospect, pre-survey promotion may have raised interest and anticipation. However, other efforts were made to increase the response rate by extending the survey completion date and contacting service leads remotely (via e-mail, telephone and holding Microsoft Teams meetings where possible). However, as was evident from the resources and demands context in the refined theory, drug services reported that they were understaffed with high workloads (before and during the COVID-19 pandemic). It is possible that services may have been overstretched beyond their capacity to engage in research, especially during COVID restrictions. It is possible that COVID restrictions may have put a greater burden on drug services, where service providers had to enhance and adapt provision to ensure that service users could still access important harm reduction services.[146] The survey also highlights the lack of evidence available on the type and size of critical harm reduction interventions. This information should be collated through national or regional data systems such that it is readily available to local, regional and national policy-makers and the community of people with lived and living experiences.

Meta-synthesis

The MS included studies from across the world, with nine conducted in the UK. Nonetheless, it is conceivable that cultural and system differences could limit generalisability to UK settings. However, several methods were adopted to mitigate this possibility, with triangulation of the IPT that was developed from this work via stakeholder PPI groups, a review of policy documents and a survey of 32 UK drug services.

Realist evaluation

The RE was limited to three geographical areas of the UK (two in England and one in Scotland). This could limit generalisability of the findings, as there may be different commissioning styles and types of service delivery that impact on specific mechanisms that we did not uncover in our three sites. Wales and Northern Ireland were not included in this study. Nevertheless, the chosen sites did provide a range of service delivery and commissioning styles, including some inner city and rural locations.

The study was focused on developing a deeper theoretical understanding of the barriers and facilitators to accessing OST/NSP services rather than a list of specific barriers and facilitators relevant to different geographical contexts. Although different regions of the UK, or even different countries, may experience different barriers and facilitators, the theory of optimal provision should be widely transferable conceptually. Different regions or countries may experience different barriers and facilitators within the contexts outlined in our optimal theory, and the mechanisms of action may need to be implemented in slightly different ways to satisfy a high level of agency and empowerment; self-esteem and respect; knowledge and communication; goals, needs and preferences; and resources and demands to achieve optimal provision.

The RE included relatively few people not in regular contact with services. Outreach teams within the drug services involved in the study did provide a good level of access to people who did not have regular contact with services, and snowball sampling increased the scope to find those who demonstrated very little engagement with services. However, the unobserved population of people dependent on opioids and/or other drugs may not be well represented in this study. In Scotland, it was estimated that approximately 25% of people dependent on opioids have not or not yet been in OST in the last 5 years; the number who have not yet been in NSP or in contact with criminal justice services is likely to be smaller.[147] Future research should consider the best strategies for reaching those with less service contacts or touchpoints (unobserved in OST) in the population of people who use drugs.[148–150] Regardless of this limitation, it is possible that the study findings are still capable of informing the improvement of services. In addition, the study did not manage to recruit any participants from minority ethnic groups, limiting the generalisability of the mechanisms to this population.

Additionally, although the RE could be considered to provide a deeper understanding of OST and NSP services, and the factors that need to be improved to achieve optimisation, the findings of this study have to some extent been conceptualised from examples of best practice and evidence generated through the RE – and, in its current form, do not provide specific recommendations for practitioners or policy-makers to easily optimise NSP and OST services and implement the lessons learned.

Refined theory of optimal provision

The refined theory was limited in terms of it being overarching across OST and NSP as opposed to constituting a different theory for each harm reduction intervention. It is possible, with a different methodology, perhaps focusing on these interventions independently from each other, that a different theoretical model would have emerged. However, we note that the effectiveness of OST and NSP to prevention of BBVs is greater in combination.[151] The theory of optimal provision created in this study reflected conceptual contexts relevant to factors across NSP and OST. We did not find factors beyond this, suggesting that barriers and facilitators within similar theoretical areas are shared for both OST and NSP, and it is possible that this refined theory could be transferrable to other harm reduction interventions.

Future research

It was clear from the research findings that despite improving the theoretical and conceptual understanding of NSP and OST services, future research will need to focus on the development of resources for drug services, such as a toolkit, to facilitate knowledge exchange and implementation of the lessons of best practice from the RE. Systematic review evidence supports the efficacy of toolkits to translate the findings of research into effective clinical practice.[152] Nevertheless, despite evidence indicating the positive effect of toolkits on clinical processes, there is a need for research to link more objective measures of toolkit efficacy.[153] This highlights the need to not only develop an effective toolkit to improve policy and practice for the provision of OST and NSP but also a robust measure of its objective impact on the outcomes.

In addition, there needs to be a focus on cocreating what is required within a whole system or multiagency approach to optimise harm reduction services and develop their capacity to support allied health services. Further research is then required to demonstrate and test how optimised services reduce multiple drug-related harms and improve access, engagement, retention and successful exit from services.

The refined theory's finding that optimal service provision requires an integrated whole-systems approach means that the economic implications for both resource use and outcomes need to be assessed holistically. In the first instance, economic modelling could be used to assess the resources required to implement the optimal delivery of OST and NSP integrated with other health services and other public sector provision, including social care, housing and criminal justice. This research would include assessment of the optimal caseload for workers within an integrated provision model, accounting for both service user and worker characteristics. The economic modelling could estimate the cost-effectiveness of potential new working arrangements and inform subsequent piloting of optimal service provision. Additionally, more research is needed to determine the size of critical harm reduction interventions, collated through national or regional data systems so that it is readily available to local, regional and national policy-makers and the community of people with lived and living experiences.

It is important to improve the visibility of ethnic minority groups in health research to reduce health inequality[154] and improve access, engagement, retention and successful exit from services. More research is needed to investigate the barriers and facilitators faced by minority ethnic groups and the mechanisms that services could implement to meet their needs.

Peers have an important role to play in the optimisation of services. More research is required to understand how to facilitate the structural implementation of peers within service delivery and to ensure a safe and effective organisational environment for them to flourish.

There is a need for more research on commissioners and their decision-making processes and how this may impact the funding environment in which services operate.

There is also a need for more research into the impact of different commissioning approaches (community vs. statutory) and service delivery pathways that may account for regional variations in service delivery.

Reporting equality, diversity and inclusion

People with lived experience of injecting drugs and/or dependence on opioids and other illicit substances are a highly marginalised and underserved population. In this study, we interviewed 44 people in total with living and/or lived experience, including 14 women, and 15 people out of regular contact with services. Our sampling strategy did not specifically target people from minority ethnic groups with lived experience. People with lived experience were involved with all stages of our research, including recruitment and interviewing of participants, interpretation of findings and codeveloping recommendations.

Additional information

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Data-sharing statement

All data requests should be submitted to the corresponding author for consideration. Access to anonymised data may be granted following review. Individual participant-level data are not available, but authors can provide research materials, analytic codes and sample-level data and information upon reasonable request.

Ethics statement

The study was entered into The Integrated Research Application System (IRAS) in order to apply for national and local permissions (IRAS No is 284272). We received permissions from HRA and Tayside Research Ethics Committee (approval number 21/WS/01216) in December 2021 with minor amendments to study documentation approved in March 2022. Further local approvals were obtained in April 2022 from study site areas: South London and Maudsley NHS Trust; Third sector Bristol Drugs Project; and NHS Greater Glasgow and Clyde.

Information governance statement

The study adhered to the principles of information governance outlined by the UK Data Protection Act 2018 and the General Data Protection Regulation (GDPR). Under the requirements of The Scottish Government Health Department Research Governance Framework for Health and Community, The University of Dundee agreed to act as Sponsor for the study. The University of Dundee followed the UK Data Protection Act (2018) and the General Data Protection Regulation (EU GDPR) 2016/679 in relation to personal data. Under Data Protection legislation, Kings College Londo, University of Bristol and University of Stirling were Data Collaborators. The University of Dundee was the Data Controller, and personal data were processed in accordance with their instructions.

Disclosure of interests

Full disclosure of interests: Completed ICMJE forms for all authors, including all related interests, are available in the toolkit on the NIHR Journals Library report publication page at https://doi.org/10.3310/HGDS4449.

Primary conflicts of interest: Margaret Maxwell is associated with the NIHR HS&DR Study Steering Committee. All other study authors declare no conflicts of interests.

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Appendix 1 Example search string from the meta-synthesis

Search string for MEDLINE and PsycInfo

1 exp Needle-Exchange Programs/

2 Safer Injecting Facility.mp.

3 exp Substance Abuse Treatment Centers/

4 needle syringe progra$.mp.

5 needle exchange progra$.mp.

6 Opiate Substitution Therapy.mp.

7 exp Opiate Substitution Treatment

8 Opioid Replacement.mp.

9 Opiate Replacement.mp.

10 Opioid Agonist Treatment.mp.

11 Opiate Agonist Treatment.mp.

12 Medication Assisted Treatment.mp.

13 Methadone Maintenance Treatment.mp.

14 Heroin assisted treatment.mp.

15 injecting equipment provision.mp.

16 needle exchange facility.mp.

17 opioid maintenance treatment.mp.

18 opioid agonist therapy.mp.

19 overdose prevention facility.mp.

20 overdose prevention service.mp.

21 drug consumption room$.mp.

22 OR/1-21

23 (((“semi-structured” or semistructured or unstructured or informal or “in-depth” or indepth or “face-to-face” or structured or guide) adj2 (interview* or discussion* or questionnaire*)) or (focus group* or qualitative or ethnograph* or fieldwork or “field work” or “key informant”)).tw,kw.

24 interviews as topic/

25 exp focus groups/

26 exp qualitative research/

27 qualitative study.ti.

28 23 or 24 or 25 or 26 or 27

29 22 and 28

30 remove duplicates from 29

Appendix 2

TABLE 8 Full-text studies excluded from the MS with reasons for exclusion

Excluded publications	Reason
Bobrova N, Rhodes T, Power R, Alcorn R, Neifeld E., Krasiukov N, *et al*. Barriers to accessing drug treatment in Russia: a qualitative study among injecting drug users in two cities. *Drug Alcohol Depend* 2006;**81**:S57–63.	Not focused on OST or NSP
Furst RT. Suboxone misuse along the opiate maintenance treatment pathway. *J Addict Dis* 2013;**32**:53–67.	Not focused on OST or NSP
Ghaddar A, Khandaqji S, Abbass Z. Challenges in implementing opioid agonist therapy in Lebanon: a qualitative study from a user's perspective. *Subst Abuse Treat Prev Policy* 2018;**13**:14.	Not focused on OST or NSP
Holt M. Agency and dependency within treatment: drug treatment clients negotiating methadone and antidepressants. *Soc Sci Med* 2007;**64:**1937–47.	Not focused on OST or NSP
Moran L, Keenan E, Elmusharaf K. Barriers to progressing through a methadone maintenance treatment programme: perspectives of the clients in the Mid-West of Ireland's drug and alcohol services. *BMC Health Serv Res* 2018;**18**:911.	Not focused on OST or NSP
Secco L, Letourneau N, Campbell MA, Craig S, Colpitts J. Stresses, strengths, and experiences of mothers engaged in methadone maintenance treatment. *J Addict Nurs* 2014;**25**:139–47.	Not focused on OST or NSP
Uscher-Pines L, Sousa J, Raja P, Mehrotra A, Barnett M, Huskamp HA. Treatment of opioid use disorder during COVID-19: experiences of clinicians transitioning to telemedicine. *J Subst Abuse Treat* 2020;**118**:108124.	Not focused on OST or NSP
Rashid RA, Kamali K, Habil MH, Shaharom MH, Seghatoleslam T, Looyeh MY. A mosque-based methadone maintenance treatment strategy: implementation and pilot results. *Int J Drug Policy* 2014;**25**:1071–5.	Not focused on OST or NSP
Drach L, Guernsey J, Maher JE, Rumptz M, Stark M, Pranian K, Casciato C. Should we move from syringe exchange to distribution? *Am J Public Health* 2011;**101**:389–90; author reply 390.	Not in-depth qualitative study
Golovanevskaya M, Vlasenko L, Saucier R. In control?: Ukrainian opiate substitution treatment patients strive for a voice in their treatment. *Subst Use Misuse* 2012;**47**:511–21.	Not in-depth qualitative study
Islam M, Wodak A, Conigrave KM. The effectiveness and safety of syringe vending machines as a component of needle syringe programmes in community settings. *Int J Drug Policy* 2008;**19**:436–41.	Not in-depth qualitative study
Yang Y, Gray J, Joe GW, Flynn PM, Knight K. Treatment retention satisfaction, and therapeutic progress for justice-involved individuals referred to community-based medication-assisted treatment. *Subst Use Misuse* 2019;**54**:1461–74.	Participants not aged ≥18 years

Full-text studies from database searching excluded with reasons for their exclusion

Excluded publications	Reason
De Maeyer J, Vanderplasschen W, Camfield L, Vanheule S, Sabbe B, Broekaert E. A good quality of life under the influence of methadone: a qualitative study among opiate-dependent individuals. *Int J Nurs Stud* 2011;**48**:1244–57. https://doi.org/10.1016/j.ijnurstu.2011.03.009 [PubMed: 21481390].	Not focused on OST or NSP
Conner KO, Rosen D. 'You're Nothing but a Junkie': multiple experiences of stigma in an aging methadone maintenance population. *J Soc Work Pract Addict* 2008;**8**:244–64. https://doi.org/10.1080/15332560802157065	Not focused on OST or NSP
Nystrom R, Grut G. *The Patient's Perspective on Opioid Substitution Treatment: A Study of Desistance from Illicit Drug Use*. 2017. URL: www.divaportal.org/smash/get/diva2:1154002/FULLTEXT01.pdf	Not focused on OST or NSP
Latham L. *Methadone in Irish General Practice: Voices of Service Users*. 2010. URL: https://purehost.bath.ac.uk/ws/portalfiles/portal/187954938/UnivBath_PhD_2010_L_Latham.pdf	Not focused on OST or NSP
Metrebian N. *Influences on the Prescribing of Heroin for the Treatment of Opiate Dependence in the UK*. 2005. URL: https://spiral.imperial.ac.uk/handle/10044/1/8267	Not focused on OST or NSP
Jones L, Bates G, Mcveigh J. *Update of NICE Guidance PH18 on Needle & Syringe Programmes: Qualitative and Quantitative Review Updates*. 2013. URL: www.researchgate.net/publication/303350479_Update_of_NICE_Guidance_PH18_on_Needle_Syringe_Programmes_	Not focused on OST or NSP

Excluded publications	**Reason**
Majid U, Loshack H. *Opioid agonist Treatments for Opioid Use Disorders: A Rapid Qualitative Review*. Ottawa: CADTH, 2019 Apr. (CADTH) rapid response report summary with critical appraisal. 2019. URL: www.researchgate.net/publication/332947240_Opioid_Agonist_Treatments_for_Opioid_Use_Disorders_A_Rapid_Qualitative_Review (accessed 29 October 2025).	Not in-depth qualitative study (is a review – reference list searched)
Neale J. Opioid pharmacotherapy: treatment, regimes, constructions and control. *Int J Drug Policy* 2013:**24**: e1–5. https://doi.org/10.1016/j.drugpo.2013.08.003 [PubMed: 24075399].	Not in-depth qualitative study

Appendix 3 Study site descriptions (two sites in England and one in Scotland)

Commissioning authorities

In England, statutory joint commissioning arrangements involving partners from the NHS, local government, and the police and probation services were disbanded in 2013. Since then, local authorities have been responsible for the commissioning of publicly funded social care services.

For the two England-based study sites, local councils are responsible for the provision of effective services (such as OST and NSP) and the development of care pathways to provide easy and flexible access that reduce the harm associated with drug use, help service users overcome dependency on illicit drugs, sustain recovery and enable people to make a positive contribution to family and community.

In Scotland, statutory joint commissioning arrangements involving partners remain in place. All core OST and NSP services are delivered by the NHS and thus remain a statutory service that is not subject to recommissioning phases. In addition to statutory services, there are ADPs, which can assess the gaps in service provision and fund some third-sector organisations to deliver services in support of core services. ADPs are a multiagency group tasked with the role of a strategic planning group of the local health and social care partnership. Membership includes Council, NHS, Police Scotland, Scottish Fire and Rescue and Voluntary Sector Alcohol and Drug Agencies, people with 'lived experience' and family representatives.

Each of the three study sites is described in turn below.

Site A (southwest of England, United Kingdom)

Site A is an area in the southwest of England. It has a population of approximately half a million residents. The rates of drug use per thousand population for opiates and or crack cocaine in the area are higher than England's overall rate. The area covered by site A also has a high rate of injecting drug use. Drug-related deaths in the area have been steadily increasing in line with the UK trend with the area and with site A having a higher than the national average for England.

Service configuration site A

Service configuration in site A comprises of a partnership between a charity organisation and other third-sector organisations and the NHS. The charity organisation is the first point of contact, which is responsible for directing people who engage to the appropriate services to meet their needs. This includes the combination of OST and NSP services where required.

Opiate substitution therapy service

Site A works in collaboration with a wide range of GP practices to provide local access to OST, and medication is dispensed by local pharmacies. Site A offers a variety of established medications, including methadone, buprenorphine and suboxone. Changes to local authority funding across England and Wales have led to many service cuts. In site A, this has led to the reduction of the number of one-to-one sessions available for service users. Budget cuts have also reduced the scope of outreach services. In addition, although there are now new formulations of buprenorphine available, including fast-dissolving sublingual gels and injectable forms that can last up to a month, these medications remain prohibitively expensive for most treatment services in the southwest.

Site A is contracted as the first point of contact for people seeking help for problematic drug use and, specifically, for the co-ordination, monitoring and recording of OST prescribing. However, site A is not responsible for all the services delivered within the harm reduction care pathway. Prior to the most recent commissioning process, site A was contracted to deliver group work and a structured day programme for service users. However, these interventions have since been subcontracted to an alternative third-sector organisation. At the time of the study, the available on-site activities over and above contractual requirements for site A included several interest groups. Psychosocial interventions are not offered by site A but can be referred to another organisation commissioned to deliver this part of the care pathway. Services which can be accessed via external referral, include one-to-one sessions, a structured day programme, peer support and peer support training, a preparation for detox group, specific groups for people using party drugs, relapse prevention groups and family involvement groups.

Site A had over 2000 people receiving treatment for opiate misuse between 2020 and 2021, over half of whom were new presentations to treatment. Between 2020 and 2021, just under three-quarters of people who were referred to the service at site A started treatment within 3 weeks, which was just below the national average for England. Between 2020 and 2021, around 10% dropped out of treatment and significantly fewer were withdrawn from treatment. Almost one-third of service users had been maintained on an OST prescription for over 4 years, and 28% of them were retained in treatment beyond 6 years. Only 18% achieved a successful exit from treatment. There is an estimated prevalence of 42% of opiate users with unmet needs who are not in treatment.

There are various routes into OST treatment at site A. There is a separate staff team which specialises in OST treatment services for people who are homeless. This service provides same-day rapid access to an opiate substitute prescription (methadone, suboxone or buprenorphine) and is the only route within site A that offers access to the long-acting injectable opiate substitute buvidal (offered to a limited number of people who are homeless at time of study). There is also a separate, complex prescribing service (operated by a different organisation) for those with chronic comorbid health conditions, such as poor mental health or additional health needs. The main route for the general population of people seeking help for problematic substance use is through the community recovery service. This route involves several stages (referral, assessment, stabilisation, maintenance and detox/community detox). After the stabilisation stage, people have a choice to pursue maintenance on an OST prescription or work towards abstinence from drugs and OST medication. In cases where an individual may drop out of services or be discharged, they can re-enter treatment via the start point in the pathway.

Referral

Access to OST is available via self-referral or from a partner organisation (GP, social work, criminal justice, etc.). Of those people accessing the service in 2021, the most common route was self-referral (46%), which was closely followed by referral from health services and social care (36%). Once referred, PWUD must attend a GP appointment and the GP must establish evidence of opiate dependence via a urine sample taken at the GP surgery.

Assessment

Where an individual meets criterion, opioid-dependent patients are then referred to a telephone assessment, which should take place within 5 working days of referral (conducted by an alternative organisation, subcontracted to undertake this part of the pathway by the commissioning body) to collect information, such as current drug use, housing issues, caring responsibilities and comorbid health conditions. At this point, it is possible to begin an OST prescription at the lowest titration point of 30 ml.

Stabilisation stage

Following the assessment, an assigned care worker is appointed and has 21 days to arrange the first appointment with PWUD. All appointments with a care worker are carried out at the GP surgery. The initial series of appointments with a care worker is termed the stabilisation stage, and these are scheduled weekly or fortnightly for a 12-week period. This stage consists of working with an assigned care worker to ensure that the appropriate medication option has been prescribed and titration has reached the optimal dose to ensure stability. Within this pathway, a care worker is trained to make recommendations regarding optimal dosing, and writes ongoing prescriptions, with a GP responsible for clinical governance and approval of the prescription. Within the 12-week period, additional duties are to be undertaken by the care worker, including the delivery of safer injecting information and the offer of on-site naloxone (overdose prevention medication) and BBV testing. A care plan should also be created to work through an individual's treatment goals and set a plan to achieve them. Following the completion of this stage, PWUD have the choice to enter the maintenance or detox stage.

Maintenance stage

The maintenance stage is for those who wish to remain on an opiate substitute. At this stage, appointments are scheduled once every 4–8 weeks, depending on need. Each appointment is allocated a 30-minute timeslot at the GP surgery. It is possible for this stage to continue indefinitely where required. The role of the care worker within this stage is to monitor dosage and stability and address any needs a service user may have via signposting to services offered, or via referral to other appropriate services. As is the case at all stages, the care worker is contracted to deliver safer injecting information, offer naloxone (overdose prevention medication) and the option of BBV testing. A care plan should also be reviewed to monitor the progress towards treatment goals.

Detox/community detox stage

The detox stage is for those who wish to become abstinent from drugs and an opiate substitute. This stage can take up to 6 months, depending on the individual need. The role of the care worker within this stage is to agree a reduction plan with the service user and monitor stability throughout that reduction. Appointments at this stage are scheduled once every 2 weeks and individuals are allocated a 30-minute timeslot at the GP surgery. As is the case at all stages, the care worker is contracted to deliver safer injecting information, offer naloxone and the option of BBV testing. A care plan should also be reviewed to assess longer-term needs following discharge from treatment. A service user can be referred to an additional care worker through site A’s community detox link. This is available for 12 weeks alongside the detox stage. However, it is often scheduled to begin at the end of the detox stage to lengthen the support available to service users. At this stage, appointments can be scheduled weekly and individuals are allocated a 1-hour timeslot. The care worker focuses on relapse prevention activities at this stage, and a service user can be referred for residential rehabilitation if it is a part of their care plan. Residential treatment is co-ordinated by an alternative organisation, which is commissioned to undertake this part of the pathway. If a service user relapses within 3 months following a successful completion of treatment, they can often re-enter an OST prescription immediately via their assigned care worker rather than having to re-engage at the beginning of the pathway.

Needle and syringe programme service

Site A has a city centre-based fixed specialist NSP service and is also responsible for the co-ordinating pharmacy-distributed NSP equipment. All injecting equipment are free of charge at the point of need, and all NSPs accept used injecting equipment for safe disposal.

Pharmacy sites

On first visit to a pharmacy NSP site, service users must register to use the service. Once registered, exchanges only need to take a few minutes, depending on the individual need. Pharmacies at site A tend to distribute equipment in pre-made packs, which are available in two sizes: 10 or 20 needles. The equipment on offer at pharmacies in site A include 1-ml, 27-g fixed needle syringe, long orange needles 25 g × 1, 1-ml barrels, citric, pre-injection chlorhexidine swabs, small bins, spoons and filters. Pharmacies may also provide health promotion advice, either verbally or in the form of health education materials, which are distributed alongside injecting equipment. Pharmacies are usually paid an ‘incentive’ by commissioning bodies to distribute needles and syringes.

Specialist site

The specialist NSP site is attached to the OST service but has a separate entrance and exit and is staffed by a different workforce than the OST service. The specialist site has a larger range of equipment than pharmacy NSPs. Site A offers equipment in packs or via pick-and-mix style, including fixed syringes and detachable needles and barrels, including low dead space detachable needles in different sized, colour-coded gauges. The specialist site also provides a larger range of services. It carries out in-depth assessments of clients’ needs and provide access to other health services and equipment on-site, such as BBV testing, naloxone, access to a nurse and wound care packs. Safer injecting advice is offered to identify the most appropriate sterile injecting equipment as well as safer alternatives to injecting. The service also allows time for service users to discuss drug use issues and explore the possibility of change. On first visit to the specialist site, a service user must register with the service (anonymously) and attend to complete an assessment. Staff use a harm reduction assessment form to facilitate this process. As a part of the registration process, a BBV test is offered and naloxone is distributed as appropriate. Once complete, service users can access the equipment they require. This process can take up to 30 minutes. However, subsequent transactions for equipment will only take a few minutes, and transactions involving more detailed harm reduction, naloxone and BBV testing will take up to 15 minutes.

Site A has particularly high levels of injecting drug use and associated harms. In the area co-ordinated by site A, over a million needles were supplied in 2015–6, with around half being split between pharmacies and specialist NSPs. The area has a relatively high coverage of NSPs, with six needles being supplied for every one estimated injection. However, there is no 24-hour access to NSPs in the area co-ordinated by site A, and NSP sites do not offer sterile water or alternative injecting route equipment such as crack pipes.

Site B (London, England, United Kingdom)

The area of London covered in site B has a total population of approximately half a million residents. The rates of drug use per thousand population for opiates and or crack cocaine in the area are lower than England's overall rate. The area of London covered by site B also has a lower rate of injecting drug use. Drug-related deaths in the area covered by site B are around the national average for England.

Service configuration site B

Service configuration in site B is commissioned across two boroughs of south London and comprises of a consortium between the NHS and two third-sector organisations. Staff at the service are employed from several disciplines (medical, psychology, nursing, recovery worker, peer worker, outreach and housing backgrounds) and have an established partnership with the local mental health team who meet regularly. The current service providers have been commissioned for a 10-year period. A core site in each borough operates as the main point of contact, which is responsible for directing people who engage to the appropriate services to meet their needs. This includes the combination of OST and NSP services where required. The service also operates outreach services which link to, but sit outside, the core service. The overarching aim of the service is to support service users in reducing or stopping their substance use and associated harm and working towards a sustainable and meaningful recovery in the community.

Opiate substitution therapy service

Site B has on-site prescribers, and medication is dispensed by local pharmacies. Each core site has a medical prescriber and a non-medical prescriber assigned to the service. One core service also has an on-site consultant psychiatrist who can also prescribe OST. Site B offers a large variety of established opiate substitute medications for prescription, including the latest fast-dissolving sublingual gels and long-acting injectable forms (methadone, buprenorphine, suboxone, espranor and buvidal). Around 10 years ago, the service took part in a successful pilot study of HAT using diamorphine, but it is not currently on offer at site B. Although the available OST medication is only dispensed by pharmacies, site B stocks and dispenses two different overdose reversal drugs for takeaway use. These include naloxone (single dose injectable formulation) or nyxoid (single-dose nasal spray).

Site B had less than a thousand people receiving treatment for opiate misuse between 2020 and 2021, around a quarter of whom were new presentations to treatment. Just under a half of all people referred to the service at site B started treatment within 3 weeks, which was well below the national average for England. Between 2020 and 2021, < 5% dropped out of treatment, and none were withdrawn from treatment. A little less than half of service users had been maintained on an OST prescription for over 4 years, and 30% of them were retained in treatment beyond 6 years. Less than 10% achieved a successful exit from treatment. There is an estimated prevalence of > 60% of opiate users with unmet needs and not in treatment.

Site B is contracted to provide services for people seeking help for problematic drug use and for the co-ordination, monitoring and recording of OST prescribing. Additionally, site B is also responsible for many of the intensive support interventions delivered within the OST pathway, such as group work, psychosocial interventions and day programmes. At site B, people have the choice to pursue harm reduction from drug use via a low-threshold approach, or via a more recovery-orientated drug treatment approach. There are two structured day programmes on offer at the service (abstinence-based vs. non-abstinence based), where service users can attend a daily programme of activity that focuses on their treatment goal. A host of groupwork interventions are also available on-site.

The patient treatment pathway to access OST at site B includes four phases: (1) engagement/assessment/titration, (2) optimisation and stabilisation, (3) planned reduction and abstinence and (4) maintenance). Phases 1 and 2 represent a linear progression of access towards establishing engagement, stabilisation and ongoing support and care plan reviews. For those unable to tolerate an optimised and recovery-focused treatment plan at phase 2, there is a low-threshold option. Phases 3 and 4 of the treatment pathway represent alternative choices that focus on a maintenance- or abstinence-based treatment goal.

Phase 1: engagement/assessment/titration

The focus of phase 1 is to provide ease of access to an OST prescription for the service user and to reduce the harms associated with drug use. This phase includes referral, triage, titration and comprehensive assessment.

Referral

Engagement with OST services at site B are accessible via self-referral or from a partner organisation (GP, social work, criminal justice, substance misuse service, etc.). In 2021, the most common route for accessing the service was self-referral, with the next highest referral routes equally shared via health services and social care (9%) and the criminal justice services (9%). Self-referrals can often be seen immediately by a triage worker allocated to assessments for that day (during allocated triage hours). For referrals from external agencies, site B attempt to contact the patient for a face-to-face assessment within 48 hours.

Triage assessment

Triage is the first stage of assessment and is available at site B between the hours of 9.45 a.m. and 11.30 a.m. on weekdays (apart from Wednesdays). Triage involves a basic (40- to 60-minute) assessment carried out to evaluate a service users' immediate need. On presentation, the triage assessment worker will take relevant information, such as a drug use history and history of physical health, and deliver safer injecting information as well as offer on-site overdose prevention medication (naloxone or nyxoid) and BBV testing. Where a triage assessment worker identifies the need for an opiate substitute medication, the patient can be referred to an on-site OST prescriber to be seen on the same day (where resources allow), where a physical examination, an assessment of intoxication or withdrawal and a urine sample can be conducted to assess opiate dependence. Site B attempts to start an opiate prescription for all that meet the criteria for opiate dependence on the day of presentation, and they have the capacity to start four to six new prescriptions per day across the boroughs. Where an individual presents to the service for help outside of the allocated triage timeslots, they may be asked to return for the next day's triage appointments unless that individual is subject to exceptional circumstances (such as pregnancy or a recent prison or hospital release). Where an individual does not meet the criteria for dependence, they can be offered the full range of support other than an OST prescription.

Titration

The purpose of titration is to help the service user to achieve the therapeutic dose range safely and quickly. The dose is started low and steadily increased over the first few weeks of treatment until an optimal dose has been reached. An optimal dose is measured and negotiated with the service user against signs of withdrawal. New OST recipients are required to commence their prescription on supervised daily consumption until they have achieved stability. However, in certain circumstance, treatment can begin at site B via unsupervised consumption (e.g. where a service user is transferring to site B having already achieved stability and a take-home consumption arrangement).

Comprehensive assessment

Following triage, a key worker is allocated who should contact the service user within 48 hours for a comprehensive face-to-face assessment, which should take place no longer than 28 days after the initial triage assessment. This is a more detailed and personalised assessment, which has been designed to assess wider needs as well as prescribing and to develop an initial care plan to meet those needs. It is often the case that a key worker will have to seek additional input from other on-site health professionals at this assessment (such as psychiatric or medical assessment) where complex needs are identified. In such circumstances, the key worker would be expected to make the referral and attend the appointment with the service user.

Phase 2: optimisation and stabilisation

The purpose of phase 2 is to provide ongoing assessment and care planning with the input of a MDT, with the aim of optimising dosage and helping the service user achieve stability (the cessation of illicit drug use or very significant reduction so that any residual use does not lead to harm).

Multidisciplinary team presentation

An individual's case is presented at a MDT meeting (which run once per week) 4 weeks after starting treatment, with the aim of supporting the reduction of illicit drug use and associated harm and promoting a recovery-orientated approach. A MDT meeting is attended by at least one representative from each part of the service (management and drug workers, a prescriber, a nurse, a psychologist, a social worker and a member of the outreach team). At a MDT presentation, the service user's care plan is reviewed, including the progress on their treatment goals, whether harm has been significantly reduced and if an optimal OST dose has been achieved. Optimisation in these areas is hypothesised to lead to a stabilisation of drug use, which will also increase a service user's motivation to engage with recovery focused activity (psychosocial interventions and group work) and engagement with services to address wider problem areas (housing, physical, mental health and other needs).

In cases where a service user has struggled to achieve optimisation and stabilisation, they have the option to remain in phase 2 of the pathway via engagement with a low-threshold harm reduction option.

Low threshold harm reduction

This option is offered to service users who do not wish to engage with a recovery-orientated approach and do not achieve optimisation and stability (miss key worker appointments, avoid engagement with psychosocial intervention, groupwork and wider supports, continue to use illicit opiates and do not achieve an optimal therapeutic dose of OST). The service recognises that the patient may be receiving some harm reduction benefit from an OST prescription while not yet being ready to fully engage with the full range of support available at the service. As a result, an OST prescription is continued subject to a risk assessment, including the dispensing of overdose prevention medication. Retention in low-threshold harm reduction is reviewed on a yearly basis via the MDT, and staff operate a proactive approach to harm reduction and brief intervention throughout to encourage engagement with a more recovery-orientated patient journey. The service user can re-engage with support to achieve optimisation and stability at any time.

Where an individual is assessed to have achieved stability on an OST prescription and is enjoying a period of successful engagement and retention in the service, they have a choice to pursue maintenance on their OST prescription (via phase 3 of the pathway) or a pathway based on the achievement of abstinence from drugs and an OST prescription (via phase 4 of the pathway).

Phase 3: maintenance

Maintenance in phase 3 is for patients who have achieved stability in phase 2 and now wish to continue with that stability (minimal or no use of illicit drugs) through a longer-term period of OST treatment. In phase 3, supervised consumption can be relaxed in negotiation with the patient when they have confidence in their continued stability and are engaging with regular key working sessions and, if required, are utilising some additional supports offered by the service. Once a patient has managed a longer period of stability with fewer supervised collections of OST, they can be considered for shared care via their GP. In shared care, prescribing is transferred from site B to the patients' GP surgery. However, site B continues to provide monthly key worker sessions, which can take place at the GP surgery or a core service at site B. In addition, the patient can also access the full range of additional supports offered at site B. If a patient relapses, their OST prescription can be transferred back to site B.

Phase 4: planned reduction and abstinence

Planned reduction and abstinence are for service users who have achieved a period of maintenance and abstinence form illicit drugs and wish to engage with the service in a structured way, with the goal of achieving abstinence from OST medication. It is recognised that service users may attempt to self-detox; however, this is actively discouraged by the service. Service users have two main recovery-orientated options provided by the service: structured community reduction and/or residential in-patient medically assisted withdrawal. Community-based structured reductions of OST accommodate service users who wish to reduce or cease OST, having been stably abstinent from illicit drugs for a period (usually, 3 months). If the therapeutic aim is to achieve a sustainable abstinent recovery, they are highly recommended to make use of the full recovery programme (key working, relapse prevention, etc.). Residential in-patient medically assisted withdrawal from OST is available for more complex cases. In addition, the service in site B has a pathway to link and prepare service users for residential rehabilitation following abstinence from OST. In cases where an individual may drop out of services or be discharged, they can re-enter treatment via the start point in the pathway.

Needle and syringe programme service

Site B has fixed specialist NSP services in its core service. There are also pharmacy-distributed NSPs across the area. All injecting equipment is free of charge at point of need, and all NSPs accept used injecting equipment for safe disposal.

Pharmacy sites

On first visit to a pharmacy NSP site, service users must register to use the service. Once registered, exchanges only need to take a few minutes, depending on the individual need. Pharmacies at site A tend to distribute equipment in pre-made packs, which are available in two sizes: 10 or 20 needles. The equipment on offer at pharmacies in site A include 1-ml, 27-g fixed needle syringe, long orange needles 25 g × 1, 1-ml barrels, citric, pre-injection chlorhexidine swabs, small bins, spoons and filters. Pharmacies may also provide health promotion advice, either verbally or in the form of health education materials, which are distributed alongside injecting equipment.

Specialist site

The specialist NSP site is attached to the OST service and uses the same entrance and exit. The NSP is staffed by the same workforce as the OST service. The specialist site has a larger range of equipment than pharmacy NSPs. Site B offers equipment in packs or via pick-and-mix style, including fixed syringes and detachable needles and barrels, including low dead space detachable needles in different sized colour-coded gauges. In addition, the NSP also supplies cold weather clothing, sleeping bags and female sanitary goods. The specialist site also provides a larger range of services. It also provides access to other health services and equipment on-site, such as BBV testing, naloxone, access to a nurse and wound care packs. Safer injecting advice is offered to identify the most appropriate sterile injecting equipment as well as safer alternatives to injecting. The service also allows time for service users to discuss drug use issues and explore the possibility of change. On first visit to the specialist site, a service user must register with the service (anonymously). Once complete, service users can access the equipment they require. Transactions for equipment only take a few minutes.

Site C (west of Scotland, United Kingdom)

Site C is an urban area in the west of Scotland. It has a population of > 600,000 people. Rates of problem drug use are higher than the Scottish average. Recent assessments of patterns of drug use in the month prior to assessment for specialist treatment indicate that more than a third of those who use drugs report the use of heroin, a little less than a third use crack cocaine and around a quarter use diazepam. Of the people reporting heroin use in the month prior to assessment, more than a quarter reported injecting. Site C has one of the highest rates of drug-related deaths in Scotland, and rates have been steadily increasing in line with the UK trend.

Service configuration in site C

Service configuration in site C is delivered by statutory services, with all core services, including OST and NSP being delivered within the NHS.

Opiate substitution therapy service

Site C has core specialist services which can offer all aspects OST and NSP in the same building. In addition, site C also offers OST in collaboration with a wide range of GP practices to provide local access to OST, and medication is dispensed by local pharmacies. Site C offers a large variety of established medications, including methadone, buprenorphine, suboxone, buvidal and, in limited numbers, HAT with diamorphine. Although site C deliver statutory services in terms of OST prescribing, and injecting equipment, they share the delivery of other supports (e.g. psychosocial interventions and support groups) with third-sector partners.

Of those reporting illicit drug use in site C for the period of 2019–20, the four most common drugs used (in descending order) are heroin, cocaine/crack-cocaine, cannabis and diazepam. The latest drug death rates (2019–20) in the wider area within which site C sits had one of the highest rates in Scotland, which was around 30% higher than the national average for Scotland. Opioids are the main factor implicated in causing drug deaths, but benzodiazepine use is also contributory.

There are various routes into OST treatment at site C, with the service providing same-day rapid access to an opiate substitute prescription via its core services as well as its outreach services. The main route for the general population of people seeking help for problematic substance use is through the core community-based site. This route involves several stages (referral, assessment, stabilisation, maintenance and detox/community detox). In cases where an individual may drop out of services or be discharged, they can re-enter treatment via the start point in the pathway.

Referral

Access to OST is available via self-referral or from a partner organisation (GP, social work, criminal justice, etc.). In site C, in 2019–20 initial assessments for specialist drug treatment involved around 2000 people, of whom two-thirds were previously in contact with services. Within site C, around 1300 individuals were in contact with services, of which two-thirds had been in previous contact. The majority of those in contact were self-referrals, with other referrals coming from health, social work and criminal justice. Following initial engagement with the service, assessment and stabilisation can be expedited on the same day.

Assessment

On initial engagement, nursing or social care staff undertake an assessment (30- to 60-minute duration) and collect information, such as current drug use, housing issues, caring responsibilities and comorbid health conditions. Once this is complete, the service user can begin OST treatment on the same day. Following the assessment, an assigned medical or non-medical prescriber can begin the service user on their preferred medication.

Stabilisation stage

This stage consists of working with an assigned care worker to ensure that the appropriate medication option has been prescribed and titration has reached the optimal dose to ensure stability. The stabilisation stage can take place in a community-based core site; however, residential-based stabilisation is also available. For those unable to achieve a stable dose of OST via the community setting, there is the option of residential stabilisation for a 6-week period. For those with complex needs, and who are in crisis, there is the option of a 21-day residential stabilisation via the crisis services. A care plan should also be created to work through an individual's treatment goals and set a plan to achieve them. Following the completion of this stage, service users are encouraged to enter a period of maintenance.

Maintenance stage

The maintenance stage can be offered via the core site, with on-site prescribers (medical or non-medical) and key workers, or via shared care. Shared care involves the maintenance of an OST prescription via a local GP surgery. Service users are offered regular appointments to review and maintain an optimal dose, review care plans (every 12 weeks, 26 weeks and 12 months) and to link in additional support services where and when required (e.g. psychosocial interventions, core life skills and mental health).

At the time of data collection, key workers allocated a 15-minute face-to-face session; however, there is now a more flexible appointment system being introduced, which means that sessions can be offered via telephone as preferred and more or less frequently as desired. The maintenance stage involves the delivery of person-centred treatment approaches, which cater for different treatment goals and modalities of service delivery (e.g. low-threshold and abstinence). It is possible for this stage to continue indefinitely where required. The role of the key worker within this stage is to monitor dosage and stability and address any needs a service user may have via signposting to services offered, or via referral to other appropriate services. As is the case at all stages, the key worker is contracted to deliver safer injecting information, offer naloxone (overdose prevention medication) and the option of BBV testing. A care plan should also be reviewed to monitor the progress towards treatment goals.

Regular MDT meetings take place once per week, where staff can discuss pertinent cases and make decisions regarding complex cases, including the need for additional support and/or readiness to move into the detox stage of treatment.

Detox/community detox stage

The detox stage is for those who wish to become abstinent from drugs and OST. A lengthy period of maintenance is encouraged, and thus service users would not usually be eligible for the detox stage until they have achieved 12 months of stability on OST. However, detox can be offered more quickly in some cases where this is desirable and acceptable. A care plan should also be reviewed to assess longer-term needs following discharge from treatment. The key worker focuses on relapse prevention activities at this stage, and service users can be referred for residential rehabilitation if it is part of their care plan. Residential treatment is delivered by third-sector organisations.

Needle and syringe programme service

Site C has specialist NSP services within its core sites across the area, including a fixed specialist NSP service which is open 24 hours a day. There is also a network of pharmacy-based NSP distribution across the area. All injecting equipment are free of charge at point of need, and all pharmacy-based NSPs accept used injecting equipment for safe disposal.

Pharmacy sites

In site C, on a first visit to a pharmacy NSP site, service users must register to use the service. At this point, personal information regarding date of birth, ethnicity, gender, drugs used and route of administration are recorded. After this, service users are provided with a unique identifying number that they can use for future transactions. Once registered, exchanges only need to take a few minutes, depending on individual need. Pharmacies at site C distribute equipment in pre-made packs. Pharmacies also provide health promotion advice, either verbally or in the form of health education materials, which are distributed alongside injecting equipment. Pharmacies are paid an ‘incentive’ of £2.40 per transaction to distribute needles and syringes. In site C, there are specialist pharmacists who oversee the design and delivery of service provision. In this site, once a transaction has been completed, data are recorded in an anonymised database.

A recently introduced pharmacy-based initiative in site C aims to increase the uptake of four existing harm reduction interventions: (1) wound management; (2) in-depth assessment of injecting risk; (3) uptake of naloxone supply; and (4) dry blood spot testing for BBVs. This new initiative is aimed at marginalised service users with complex issues that act as barriers to accessing and engaging with services. Service users who complete all four interventions receive a £20 payment.

Specialist site

On first visit to the specialist site, as with pharmacy-based services, a service user must register with the service (anonymously). The specialist NSP sites are attached to the core OST services across the area, with the same staff working in both services. Furthermore, the building within which both services coexist involve the use of the same common entrances and exits. The specialist site provides a larger range of services than pharmacy-based sites. The specialist service can carry out in-depth assessments of clients’ needs and provide access to other health services and equipment on-site, such as BBV testing, naloxone, access to a nurse and wound care packs. Safer injecting advice is offered to identify the most appropriate sterile injecting equipment as well as safer alternatives to injecting. The service also allows time for service users to discuss drug use issues and explore the possibility of change.

In the area co-ordinated by site C, around a million needles were supplied in 2020–1. The area has relatively high coverage of NSPs, with around 50 needles being supplied for every person who injects drugs. However, there is no pharmacy-based 24-hour access to NSPs in the area co-ordinated by site C.

Appendix 4

TABLE 9 Regression model results including missing as a category: factors associated with mean appointments booked per service user

				Univariable				**Adjusted**			
Covariate	***n***	**Mean**	**SD**	**Coefficient**	***p***	**95% CI**		**Coefficient**	***p***	**95% CI**	
Substance type											
Opiate	806	2.98	1.67	Ref.				Ref.			
Alcohol	4	3.25	2.99	0.27	0.75	−1.38	1.93	0.60	0.47	−1.01	2.20
Non-opiate	9	3.11	1.90	0.14	0.81	-0.97	1.24	0.37	0.50	−0.71	1.44
Non-opiate + alcohol	6	3.00	2.00	0.02	0.97	−1.33	1.38	0.24	0.72	−1.07	1.56
Opiate +	743	3.21	1.77	0.24	0.01	0.07	0.41	0.28	0.00	0.12	0.45
Opiate + alcohol	200	3.28	1.67	0.30	0.02	0.04	0.57	0.31	0.02	0.05	0.56
Opiate + non-opiate	2489	3.12	1.67	0.15	0.03	0.02	0.28	0.15	0.03	0.02	0.28
Opiate + non-opiate + alcohol	1000	3.21	1.70	0.23	0.00	0.08	0.39	0.25	0.00	0.10	0.40
Missing	85	1.55	1.03	−1.42	0.00	−1.80	−1.05	−1.16	0.00	−1.54	−0.79
Opioid use in last 28 days											
0	2377	3.12	1.62	Ref.				Ref.			
1–7	736	3.40	1.61	0.28	0.00	0.14	0.42	0.18	0.01	0.05	0.32
8–14	466	3.35	1.54	0.22	0.01	0.06	0.39	0.11	0.21	-0.06	0.27
15–21	147	3.71	1.71	0.58	0.00	0.30	0.86	0.41	0.00	0.13	0.68
22–28	473	3.18	2.20	0.06	0.49	−0.11	0.22	−0.04	0.61	−0.21	0.12
Missing	1143	2.70	1.63	−0.43	0.00	−0.55	−0.31	−0.24	0.32	−0.70	0.23
Housing problem											
No	3674	3.19	1.66	Ref.				Ref.			
Yes	474	3.44	1.95	0.24	0.00	0.08	0.40	0.14	0.08	−0.02	0.30
Missing	1194	2.73	1.64	−0.47	0.00	−0.58	−0.36	0.00	0.99	−0.46	0.45
13-week period in year											
2023	1724	2.87	1.55	Ref.				Ref.			
2022	1812	2.82	1.45	−0.06	0.31	−0.17	0.05	−0.08	0.14	−0.19	0.03
2019	1806	3.64	1.92	0.76	0.00	0.65	0.87	0.69	0.00	0.57	0.80

CI, confidence interval.

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HTA
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