Drug and alcohol treatment orders for improving health outcomes for adults mandated to participate in treatment as part of non-custodial sentence conditions: A protocol for two complementary evidence syntheses.

Registered

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Funding

This study is funded by the NIHR Evidence Synthesis Programme.

Glossary

Alcohol Abstinence Monitoring Requirement	A power given to the courts that allows them to order offenders to abstain from alcohol for a fixed period and to be regularly tested for compliance.
Alcohol monitoring tags (also known as sobriety tags or abstinence tags)	Electronic ankle bracelets that detect alcohol consumption through the skin
Cognitive behavioural therapy	A talking therapy that can help people manage their problems by changing the way they think and behave
Community service	Unpaid work, intended to be of social use, that a person is required to do instead of going to prison
Controlled before-after study (CBA)	A study in which observations are made before and after the implementation of an intervention, both in a group that receives the intervention and in a control group that does not
Community Payback Order (CPO)	In Scotland, a sentence of the court that can be imposed instead of imprisonment. A CPO can require the individual to comply with up to nine different conditions including completing unpaid work, paying compensation to their victim, or being supervised by a social worker
Core outcome set (COS)	A list of outcomes which experts have recommended that researchers should measure, as a minimum, and report if they are undertaking a research study in a particular area
Criminal justice system	The system of law enforcement that is directly involved in apprehending, prosecuting, defending, sentencing, and punishing those who are suspected or convicted of criminal offences.
Deductive analysis	A structured approach to analysing data in which the researcher starts with a theory, hypothesis, or generalisation and then tests it
Disconfirming cases	In qualitative research, rival explanations, e.g. described in published studies, that can help the research team understand and define the limitations of research findings.
Disposal	A disposal is the sentence or outcome of a criminal case.
Drug and alcohol courts	Specialist courts for offenders who are drug and/or alcohol users as an alternative to the normal court system. These courts integrate alcohol and other drug treatment services with the criminal justice system and seek to reduce the rates of

	reoffending by supporting individuals who offend with their underlying alcohol/drug issues.
Drug Treatment and Testing Orders (DTTOs)	A community sentence intended for drug users who have a significant record of drug-related offending, and it can be used as an alternative to prison. The Order requires offenders to submit to regular drug testing, to attend intensive treatment and rehabilitation programmes and to have their progress reviewed regularly by the courts. Drugs treatment is the primary means of reducing offending behaviour.
Funnel plots	A chart that shows the measure of interest on the vertical (y) axis and sample size on the horizontal (x) axis. For systematic reviews, it is in the form of a scatter plot of the intervention effect estimates from individual studies against some measure of each study's size or precision. It is commonly used in meta-analyses to visually detect publication bias.
GRADE (Grading of Recommendations Assessment, Development, and Evaluation)	A method of assessing the certainty in evidence (also known as quality of evidence or confidence in effect estimates) and the strength of recommendations in health care.
GRADE-CERQual (Confidence in the Evidence from Reviews of Qualitative research)	An approach for assessing how much confidence to place in findings from systematic reviews of qualitative research or qualitative evidence syntheses.
ICD-11	The eleventh revision of the International Classification of Diseases. The global standard for recording health information and causes of death. It is developed and annually updated by the World Health Organization.
Inductive	Using a particular set of facts or ideas to form a general principle
Intra-cluster correlation coefficient (ICC)	A statistical measure applied to trials that randomise participant by groups (known as cluster randomised trials) used to test whether outcomes for individuals within clusters are likely to be more similar than those across clusters (the 'clustering effect').
Intervention	The act of interfering with the outcome or course especially of a condition, situation or process (to reduce or prevent harm or risk or to improve functioning) e.g. a treatment used by health professionals.

Mutual aid programmes	People with similar experiences helping each other to manage or overcome issues in a structured programme that is focused on recovery. e.g. 12-step programmes that help people recover from substance use problems
Non-custodial	A punishment that does not involve a person being sent to prison.
Probation	A period of supervision of a person who has committed a crime, ordered by the court, when the person has to obey the law and be supervised by a probation officer, rather than being sent to prison.
Probation officer	A person appointed to supervise a person who has committed a crime who is on probation.
Qualitative evidence synthesis	The development of techniques to combine multiple sources of qualitative data to derive best evidence for use in policy and practice
Quasi- Randomised controlled trial	A study in which participants are allocated to different intervention groups using a method of allocation which is not truly random
Randomised controlled trial (RCT)	A study in which participants are randomly allocated to different intervention groups
Social worker	A person whose job is to help people in a particular area who have social disadvantages or personal problems.
Systematic Review	A review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyse data from the studies that are included in the review. Statistical methods (meta-analysis) may or may not be used to analyse and summarise the results of the included studies.
Thematic analysis	A method of analysing qualitative data following a series of steps to generate themes

Background

Description of the topic

People who become involved in the criminal justice system, by being charged with, or convicted for an offence, have extremely high rates of substance (drug and/or alcohol) use problems.[1, 2] For instance, in 2021 in the United States, 47.5% of adults aged 18 years or older, who were on state or federal probation had diagnosed substance use dependence, compared to only 17.3% of adults who were not involved in the criminal justice system. [3] In England and Wales the health, crime, and societal costs of drugs are estimated at more than £19 billion per year, [4] while alcohol related crime and social disorder costs UK tax payers around £11 billion per year. [5]

Adults involved in the justice system are overrepresented in deaths related to alcohol and drugs, for example, in England and Wales from 2011 to 2021 drug-related deaths in offenders who were supervised in the community by the probation service were over 16 times greater (n=2,801) than the general population. [3, 6] Short-term custodial sentences have been strongly criticised as an ineffective means of rehabilitation for people with substance use problems who have offended because they fail to address complex underlying issues such as experiences of trauma and victimization, poor mental health, homelessness, or housing insecurity. [7-10] Alternative approaches to incarceration that promote treatment and balance accountability with recovery for the most vulnerable are needed.[11] One approach to address these needs is through imposing mandatory substance (drug and/or alcohol) use treatment as a condition of a non-custodial sentence. However, the effectiveness of mandatory substance use treatment has mainly been evaluated only in relation to reoffending, not in relation to the health outcomes of treatment. [8, 12-16]

Description of the intervention

Non-custodial judicial treatment orders are initiatives in which people with substance use problems who are involved with the criminal justice system are given substance use treatment-based sentences instead of, or as well as, the traditional 'punitive' and/or custodial criminal justice pathways. These mandatory rehabilitative interventions are likely to comprise a mix of interventions including:

- mandatory (regular or random) testing or continuous monitoring (e.g., electronic alcohol tags, drug testing),

- psychological / behavioural interventions aimed at preventing relapse (e.g., cognitive behavioural therapy; individual substance use counselling; affective, behavioural and coping skills; contingency management)
- other community-based interventions (e.g., mutual aid programmes like the 12-step programmes, community reinforcement approach)
- medication-assisted treatment, and/or
- attendance at specialist drug or alcohol courts.

In most cases the person receiving the treatment order must agree that they are willing to comply with the treatment requirement before the order is made. Failure to comply with the original requirement may result in legal penalties (e.g., probation, community service, or incarceration). Although treatment orders and requirements differ across the world, for example, in the extent of drug decriminalisation and how much emphasis is placed on consent for interventions,[17, 18] the integrated approach of monitoring and rehabilitation ultimately seeks to address the underlying substance use in order to reduce recidivism.[8,12-14]

Examples of non-custodial judicial treatment orders for people mandated to participate in treatment as part of non-custodial sentences, the precise names of which might differ globally and historically, include:

- drug treatment and testing orders: non-custodial sentences that allows the court (with the offender's consent) to order the offender to undergo treatment, including mandatory testing, in cases of drug use disorders [8]
- alcohol abstinence monitoring requirement: allows courts to impose a requirement for an offender to abstain from alcohol for a fixed period and be regularly tested/monitored to ensure compliance
- alcohol monitoring tags (also referred to as sobriety tags or alcohol abstinence tags) are electronic ankle bracelets worn by people convicted of alcohol-related crimes. alcohol consumption is monitored 24/7 using sweat samples that are collected every 30 minutes, providing a continuous record of alcohol consumption
- community payback orders: require the individual to comply with up to nine different conditions including completing unpaid work, paying compensation to their victim, or being supervised by a social worker [8], and

- specialist courts e.g., drug and alcohol courts led by the judicial system and by judges who specialise in these non-standard court systems which were established to engage and supervise people with substance use problems to allow them to receive appropriate treatment. [19-21]

Why it is important to do this review?

Living with substance use problems can have a negative impact on the quality of life and social participation for the person themselves, those who care about them, the community in which they live, and society more broadly. The health consequences of substance use are extensive and well documented and include over 200 related conditions.[22] There is currently a potential risk that offenders with substance use problems are being mandated to engage with suboptimal treatment and interventions that might harm their health. [8, 11] A recent non-systematic literature review of evidence by the Scottish Government concluded that court ordered treatment might be less effective than voluntary treatment, but might result in better outcomes for people than prison. [8] To our knowledge, there have been no systematic reviews of the impacts of mandatory treatments on the health and well-being of people /offenders with substance use problems.[23] There is an urgent need to conduct high-quality systematic reviews to synthesise the current quantitative and qualitative research evidence on the effects of mandatory treatments on the health and well-being of people with substance use problems who are in involved with the criminal justice system. We will conduct two complementary reviews of the evidence: a review of the quantitative evidence (referred to as the 'review of effectiveness') to determine the effects of mandatory treatment on the health, quality of life, and social participation of people with substance use problems who are involved with the criminal justice system; and a review of the qualitative evidence (referred to as the 'qualitative evidence synthesis') to investigate the perceived barriers and facilitators to mandatory treatment to stakeholders to inform future implementation internationally. These reviews will provide vital evidence to inform use of these treatments in sentencing with the potential to reduce health inequalities for this vulnerable population.

Objectives

Objective 1: Review of effectiveness

To assess the effectiveness of drug and alcohol treatment orders in improving health and well-being outcomes, for people mandated to participate in treatment as part of a non-custodial sentence.

Our secondary objective is to explore equity-related factors (e.g., age, sex, ethnicity, place of residence) in sub-group analysis.

Objective 2: Qualitative evidence synthesis

To identify the perceived barriers and facilitators that influence the implementation of non-custodial judicial treatment orders related to drugs and/or alcohol. These factors will be considered from the perspective of:

- adults mandated to participate in drug and/or alcohol treatment as part of their sentence, whether or not they comply with the orders
- affected family members/significant others of adults mandated to participate in drug and/or alcohol treatment as part of their sentence, and
- staff / intervention providers (e.g. health and social care professionals, social workers, probation officers) involved in the mandated treatment of adults with drug and/or alcohol problems use as part of their sentence.

Research questions

1. Are drug and/or alcohol treatment orders more effective for improving health outcomes, for people mandated to participate in treatment as part of non-custodial sentence conditions compared with no mandatory treatment, or treatment as usual? [Objective 1]
2. What are the barriers and facilitators to the implementation of non-custodial judicial treatment orders for people mandated to participate in treatment as part of non-custodial sentence conditions from the perspectives and experiences of adults mandated to participate in drug and/or alcohol treatment, their affected family

members/significant others, and staff / intervention providers delivering or mandating the treatment? [Objective 2]

Study design

This protocol will be registered on PROSPERO, the International Prospective Register of Systematic Reviews.

To answer our objectives, we will conduct two complementary evidence syntheses:

(1) To address objective 1, we will conduct a systematic review with meta-analysis (where there are suitably comparable studies) or narrative synthesis (where outcomes, interventions, populations are too heterogeneous).

(2) To address objective 2, we will conduct a qualitative evidence synthesis using a framework synthesis methodology.[24]

The methods for conducting and reporting this review will follow the Cochrane Handbook for Systematic Reviews of Interventions,[25, 26] and Campbell and Cochrane guidance,[24] and PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)[27] and ENTREQ (Enhancing transparency in reporting the synthesis of qualitative research)[28] reporting guidelines. If there are no meta-analyses, we will follow the Synthesis Without Meta-analysis (SwiM) in systematic reviews reporting guideline,[29] rather than PRISMA.[27] We intend to produce separate publications to report the two reviews.

Methods

Criteria for considering studies in this review

Types of studies

A recent narrative review of community sentencing options for people with substance use disorders highlighted that substantial *"practical, legal and ethical challenges make it very rare for studies in this space to utilise the most rigorous methodologies like randomised controlled trials (RCTs) or robust quasi-experimental or matching approaches*"[30] (p. 1).

In order to address objective 1, we will include quantitative evidence from a broader group of study designs following Cochrane EPOC (Effective Practice and Organisation of Care) guidance.[31] The following types of studies will be included:

- RCTs: studies in which participants are randomly allocated to different intervention groups using established methods such as random number generators. We will also include other complex trial designs (e.g., multi-arm RCTs, cross-over RCTs, cluster-RCTs and stepped-wedge cluster RCTs)
- quasi-RCTs: studies in which participants are allocated using a method of allocation which is not truly random (e.g., date of birth)
- non-randomised studies: experimental studies in which people are allocated to different interventions using methods that are not random, and
- controlled before-after studies (CBA): studies in which observations are made before and after the implementation of an intervention, both in a group that receives the intervention and in a control group that does not.

To address objective 2, we will include qualitative evidence from:

- primary qualitative studies (e.g., ethnography, case studies, and process evaluations), and
- mixed methods studies, where the qualitative data are reported separately.

We will include all peer-reviewed publications (including abstracts for objective 1 only) and other published and unpublished data that meet our inclusion criteria. We will exclude secondary research (systematic reviews and evidence syntheses). However, where we find relevant secondary research studies, we will consider any primary studies reported, and include any that meet our inclusion criteria. We will exclude all other study designs (i.e., cohort studies, case-control studies, surveys / cross-sectional studies, case-series, commentaries, and opinion articles).

Population of interest

To address objective 1, we will include all studies (RCTs, quasi-RCTs, non-randomised studies or CBA studies) involving adults aged 18 years and over who have received mandatory drug or alcohol treatment as part of a non-custodial sentence. Participants could enter the intervention at any stage of the treatment order. We will exclude studies which

focus on participants who are juvenile offenders and studies which focus on families which do not report any health and well-being outcomes for affected family members/significant others.

To address objective 2, we will include qualitative studies which focus on adults involved in mandatory drug and/or alcohol treatment as part of their non-custodial sentence. We will also include qualitative studies focusing on affected family members/ significant others, and staff (e.g., health and social care professionals, social workers, probation officers, members of the judiciary) involved in the treatment of adults experiencing mandatory drug and/or alcohol treatment as part of their non-custodial sentence.

For objectives 1 and 2, if studies present data from juveniles and adults, we will include studies where the data on adults are presented separately.

Phenomena of interest

We will include any community disposal (i.e. non-custodial) that has mandatory treatment within it. This could include (but is not limited to):

- drug treatment and testing orders
- community payback orders
- alcohol tags, and
- specialist courts e.g., drug courts.

Comparators

Objective 1: review of effectiveness

We will investigate whether a treatment order is more effective than no mandatory treatment order or treatment as usual.

Objective 2: qualitative evidence synthesis

Where there are sufficient data, we will compare different ‘actors’ or study participants in terms of their perceptions and experiences of the range of interventions, for example,

comparing perceptions of healthcare professionals with those of adults involved in mandatory drug and/or, alcohol treatment as part of their sentence.

Types of outcome measures

Objective 1: review of effectiveness

We searched the COMET (Core Outcome Measures in Effectiveness Trials) database (https://www.comet-initiative.org/) to identify a minimum core outcome set (COS) for use in this review. The majority of these were reported as ongoing, however one COS was identified that is directly relevant to this review. [32]

Primary outcomes:

The primary outcomes of interest for this review are:

(1) Global functioning: substance-use specific (e.g. Substance Use Recovery Evaluator (SURE) and generic measures (e.g. WHODAS 2.0, PROMIS-10, Global Assessment of Functioning (GAF).

(2) Quality of life (QoL): substance-use specific (e.g. Addiction Severity Index) and generic QoL measures (e.g. SF-36, SF-12, EQ-5D, WHOQOL-BREF)

Secondary outcomes:

(1) Drug or alcohol use measures reported as:

- self-reported frequency and quantity drug or alcohol use (e.g., Addiction Severity Index composite scores, timeline follow back method, Alcohol Use Disorders Identification Test (AUDIT)); or
- biological alcohol and /or drug use (e.g. measured by testing urine, saliva or analysing hair for drugs, breathalyser for alcohol);

(2) Severity of dependence (e.g. Leeds Dependence Questionnaire (LDQ), Severity of Alcohol Dependence, Severity of Dependence Scale (SADQ), Addiction Severity Index composite scores)

- Symptoms

(3) Depression and anxiety measured using, for example, the Hospital Anxiety and Depression Scale (HADS), Beck Depression Inventory (BDI)

(4) Family member/ significant other outcomes measured using, for example, depression and anxiety
(5) Adverse events / unintended consequences (examples may include accidental drug overdose, suicide).

Where two or more outcome measurement instruments are used to capture the same outcome then we will review the data availability (numbers of participant data, completeness of the datasets) to inform the inclusion of an outcome measurement instrument. Where two or more outcome measurement instruments were used in a single trial to capture the same outcome, and where data availability is equal across both outcome measurement instrument datasets, then we will consider overlap with outcome measurement instruments used in other trials. We will then consider statistical heterogeneity. Finally, where all outcome measurement instruments remain equal in relation to the above factors, then we will arbitrarily choose one outcome measurement instrument and conduct a sensitivity analysis based on the alternative outcome measurement instruments.

We will extract outcomes which are recorded at the end of the intervention ('immediate' point) and outcomes measured at a 'follow-up' time point. Where multiple follow-up time points are available, we will extract data which reflect the following time points:

- short-term (less than three months, up to six months)
- medium-term (more than six months, up to 12 months), and
- longer-term (more than 12 months).

Objective 2: qualitative evidence synthesis

The phenomena of interest in the qualitative evidence synthesis are the views, perceptions, and experiences of:

- the individual who receives the drug and alcohol treatment order (e.g., drug courts, drug treatment and testing orders) and their perceived impact on health and substance use (including quality of life, wellbeing, social participation)
- staff who are responsible for providing the drug and alcohol treatment order, and

- affected family members/ significant others of the individuals who are receiving the drug and alcohol treatment order.

Search methods for identification of studies

We will search bibliographic databases that may include publications about treatment orders, and all searches will be devised and run by an experienced Information Specialist (CF). We will search databases covering the biomedical, social policy and legal subject areas, to ensure all relevant publications are retrieved. We will also search trial registries to ensure all randomised controlled trials in the area are retrieved.

The MEDLINE search is included in Appendix 1 and will be adapted for other databases. Search results will be combined and de-duplicated using Endnote and imported to Covidence systematic review management software for screening.

Electronic databases

We will search the following databases:

- MEDLINE via OVID
- Embase via OVID
- CINAHL via EBSCO
- Psycinfo via OVID
- Web of Science via Clarivate
- LexisPSL
- Westlaw UK
- ASSIA (Applied Social Science Index and Abstracts) via Cambridge Scientific Abstracts
- IBSS (International Bibliography of Social Science) Online via ProQuest
- Policy Commons
- Social Care Online (1980-2022)
- World Health Organization International Clinical Trials Registry Platform (ICTRP)
- ClinicalTrials.gov.

Searching other resources

We will search the reference lists of included studies and secondary research studies for any further eligible primary studies reported and include any that meet our inclusion criteria. We will conduct forward citation searching using citation chaser software for included studies (https://www.eshackathon.org/software/citationchaser.html).

Date and language limitations

Searches will not be restricted by date, and we will search all years. We will restrict searches by language and will only include English language publications because of the additional resources and time required for translation.

Data collection and analysis

Selection of studies

An information specialist (CF) will run the searches and remove any duplicate records using Endnote software. The remaining records will be imported into Covidence software. Two of three review authors (PC, BD, EF) will independently apply the selection criteria to title and abstracts. Two of three review authors (PC, BD, EF) will independently apply the selection criteria to the full papers, and 'tag' included studies as relevant to objectives 1 and/or 2. Disagreements between review authors will be resolved through discussion, involving a third content expert review author (CO, HC) where necessary.

The flow of studies through the selection process will be recorded in sufficient detail to complete a PRISMA flow diagram.[27] Full text records that are judged as ineligible for inclusion will be listed in the characteristics of excluded studies table, together with reasons for their exclusion.

Objective 2- Sampling of studies

Qualitative evidence synthesis aims for depth of understanding and insights rather to draw definitive conclusions about intervention effectiveness, therefore an exhaustive sample is not required. Furthermore, large amounts of qualitative study data can impede the ability to conduct an in-depth analysis and so impair the quality of the analysis. Once we have

identified all studies that are eligible for inclusion, we will assess whether selecting a sample of studies is required in order to best address our review questions.[33 34] Key generic criteria to consider when selecting studies to synthesise include:

- the number of relevant qualitative studies and adequacy of the sample to answer review questions coherently
- whether all elements of context specified in the review question are adequately represented in the included qualitative studies
- the match/fit between the context of qualitative studies in the synthesis and the context of trials in the linked intervention effect review so that they can map onto each other to facilitate the later integration of findings
- whether it is important to include all evidence if the topic is critically under-researched or new
- any methodological concerns of individual studies in light of their contribution to the development and interpretation of findings, and
- the need to report contradictory data/disconfirming cases.[35]

For our specific review topic it will be important to consider, for example, ensuring diversity across the studies in relation to the intervention model (abstinence-based versus maintenance/harm reduction models), the type of substance use treatment, and substance focus (alcohol or drugs or both), as well as the geographical location of studies since judicial systems vary.

Dealing with multiple related publications

Objective 1: review of effectiveness

To avoid double counting of participants, all related records (and publications) which are clearly from the same study will be allocated a unique study identifier. All related records will be transparently reported and recorded in the PRISMA flow chart. When multiple papers pertain to the same study, details will be combined, and all publications related to that study will be considered during data extraction. However, if there is conflicting information between different reports from the same study, we will seek clarification from the study authors by email. If we do not get a response from the study authors, we will base our extraction on the 'main' publication and we will highlight this within our narrative synthesis.

Objective 2: qualitative evidence synthesis

For the qualitative evidence synthesis, where multiple papers reporting the same qualitative study present different findings, then separate assessments and analyses of the data will be conducted.

Data extraction, coding and management

Objective 1: review of effectiveness

Two review authors (PC, BD) will independently extract data from all studies using a pre-developed data extraction form, within Covidence. The extraction form will be piloted on at least five studies prior to use. Any disagreements resolved through discussion, involving a third review author if necessary.

We will extract and categorise data on the following items:

- author and year
- type of study design
- aim (verbatim)
- number of participants/dropouts
- inclusion and exclusion criteria
- geographical setting (countries)
- setting in which the intervention is delivered
- demographic characteristics: PROGRESS plus characteristics [36] including sex, gender identity, sexual orientation, levels of education, work/education status, housing status, living arrangements, ethnic minority / marginalisation will be profiled in detail[36]
- clinical factors: including any reported co-morbid physical or mental health conditions coded using the ICD-11,[37] hospitalisations, frequency of health service contacts/use
- drug and alcohol reduction/cessation/relapse rates
- route of drug administration, e.g. by injection, and type of substance used
- post-traumatic stress disorder/trauma, adverse life experiences (if reported)
- intervention characteristics: will be described using the TIDieR (template for intervention description and replication) framework[38] including type of treatment order intervention (and treatment components), materials, procedures, provider and

relevant qualification and training, mode of delivery, regimen, tailoring, modification, adherence, details of other concomitant treatments. We will also report details of the target of intervention and any theoretical approach underpinning the intervention.

- therapeutic relationship: we will extract any relevant information ('verbatim') that is reported related to the therapeutic relationship between the person receiving the treatment order and those providing the intervention.
- comparator characteristics: we will use the tidier framework[38] as reported above to document the characteristics of the comparator.
- outcomes: in addition to the relevant outcomes of interest for this review (see section 'outcomes'), we will extract a list of all outcomes reported and outcome tools used,
- baseline and follow-up results data (mean and standard deviation, or other summary statistics as appropriate) for relevant outcomes. For non-randomised studies we will also extract data on intervention effects, levels of precision and any adjusted confounders reported. We will extract data for an 'immediate' time point – recorded at the end of the intervention period; and for a 'follow-up' time point. Where multiple follow-up time points are available, we will extract data which reflect the following time points: short-term (< 3 months to 6 months), medium-term (> 6 to 12 months) and longer-term (> 12 months), and
- study funding and conflict of interest.

Objective 2: qualitative evidence synthesis

One review author will systematically extract data on study, participant and intervention characteristics from all papers using a pre-developed data extraction form within Microsoft Excel which will be piloted on three to five papers and revised if necessary. Data extraction will be cross checked by a second review author. Any disagreements will be resolved through discussion, involving a third review author if necessary. If and when high concordance between review authors is achieved, the remaining data extraction will be conducted by one review author only.

We will extract and categorise data on the following items:

- year
- study design

- aim
- geographical setting (countries)
- research participants
- demographic characteristics of research participants: progress plus characteristics including sex, gender identity, sexual orientation, levels of education, work/education status, housing status, living arrangements, ethnic minority / marginalisation,[36] use of drugs versus alcohol, and duration of substance use problems
- data collection methods
- data analysis methods
- professional group involved in providing the treatment(s) and length of time in the profession
- details of staff who were providing the intervention
- type and detail of interventions implemented
- details of any adverse events/unintended consequences,
- study funding and conflict of interest, and
- linked studies of intervention effects.

Qualitative data coding and analysis

We will use the framework synthesis approach, which combines deductive and inductive analysis in order to answer review question 2.[24] Framework synthesis involves five key steps: (1) familiarisation, (2) framework identification, (3) indexing, (4) charting and (5) mapping and interpretation. In steps 1 and 2, we will develop an initial deductive coding framework[39] of thematic categories based on familiarity with the review topic, the review aim, and the included qualitative studies, for example, in Microsoft Excel. We will develop and use a brief codebook of definitions of themes to ensure review authors assign them consistently to data. In step 3, one review author will extract verbatim qualitative findings systematically from each study into the framework and a second review author will independently check the extracted data for completeness. The framework will be modified as analysis progresses to

accommodate additional themes identified from study data in an inductive approach. In step 4 we will critically assess review evidence by examining the amount of data assigned to each theme, whether data support or undermine each theme, and the methodological quality of the studies contributing to each theme. Close attention will be paid to similarities and differences between study participants, interventions, and geographical settings. In step 5, we will then use the principles of thematic analysis to further develop and refine themes and subthemes inductively from the data. For rigour and richer interpretation, data analysis and interpretation will be discussed will all members of the review team, topic experts, and our patient and public involvement group as it progresses.

Assessment of risk of bias in included studies

Objective 1: review of effectiveness

The same two review authors (PC, BD) will independently document the methodological quality of the included studies using the suggested risk of bias criteria recommended by the Cochrane EPOC group.[40] Each study will be judged as being at high, low or unclear risk of bias for the following nine domains:

- random sequence generation (selection bias)
- allocation concealment (selection bias)
- baseline outcome measurements (similar)
- baseline characteristics (comparable)
- knowledge of the allocated interventions adequately prevented during the study
- protection against contamination
- incomplete outcome data (attrition bias)
- selective outcome reporting (reporting bias)
- other risks of bias.

Where inadequate details are provided in the original report, data will be sought from study authors. Any disagreements will be resolved through discussion, involving a third review author if necessary. We will use the Robvis web app to create risk of bias assessment visualisations.[41]

5.4.2 Objective 2: qualitative evidence synthesis

We will use a tool appropriate to the design of the study recommended by Cochrane, i.e.:

- the Critical Appraisal Skills Programme (CASP) for qualitative studies.[42]

We will assess methodological limitations according to the following nine domains:

- Was there a clear statement of the aims of the research?
- Is a qualitative methodology appropriate?
- Was the research design appropriate to address the aims of the research?
- Was the recruitment strategy appropriate to the aims of the research?
- Were the data collected in a way that addressed the research issue?
- Has the relationship between researcher and participants been adequately considered?
- Have ethical issues been taken into consideration?
- Was the data analysis sufficiently rigorous?
- Is there a clear statement of findings?

Assessments will be carried out independently by two review authors. Any disagreements will be resolved through discussion, involving a third review author if necessary. The Robvis web app will be used to create separate methodological strengths and limitations visualisations for each CASP domain used to assess the qualitative evidence.[41] CASP results will inform GRADE-CERQual (Confidence in the Evidence from Reviews of Qualitative research) judgements of how much confidence can be placed in our synthesised findings.[43]

Measures of treatment effect

Objective 1: Review of effectiveness

Where direct evidence is available, we will conduct meta-analyses of pairwise comparisons for outcomes. We will estimate pooled effect sizes (with 95% confidence intervals) using data from individual arms of included trials. We will estimate risk ratios for binary outcomes and mean differences for continuous outcomes (or standardised mean differences if different

measures of the same outcomes have been used in different trials). We will meta-analyse complex trial designs (multi-arm, cluster and crossover) following established guidance.[25]

We will conduct the synthesis of non-randomised studies according to the guidance in Chapter 24 of the Cochrane Handbook for Systematic Reviews of Interventions.[25] Where possible, we will meta-analyse effect sizes. We will meta-analyse randomised and non-randomised studies separately.

Unit of analysis issues

Objective 1: Review of effectiveness

We anticipate that most studies will employ a parallel randomised design, we plan to meta-analyse any complex trial designs (multi-arm, cluster-randomized and cross-over) using established guidance reported in the Cochrane Handbook.[25] Specifically for the following study designs we have planned the following:

- multi-arm studies: for studies reporting more than one active intervention arm which may be eligible for inclusion within the same comparison, we will divide the control group data between the pairwise comparisons to avoid double counting participants.
- cross-over randomised studies: we will analyse the data from the first phase of the trial unless there is a relevant comparison.
- cluster-randomised design: we plan to treat this using the group (or cluster) as the unit of allocation. we will use adjusted data for clustering (if reported). However, if no adjustment has been used, then we plan to adjust the raw data using the intra-cluster correlation coefficient (ICC), using established methods.[25] If the ICC is not reported for a study and we are unable to obtain the ICC value from the authors, then we plan to use the ICC for the study's own sample size calculation instead.

Dealing with missing data

Objective 1: Review of effectiveness

We plan to contact study authors once by email (where possible) to obtain missing data relevant to our primary and secondary outcomes (for objective 1 only). We will contact study authors when these data are missing from identified reports or where study reports do not provide means or standard deviations (or data from which these can be calculated by the

review authors). We will only analyse available data and do not plan to input missing data with replacement values.

Where partial summary data are reported, we will calculate these values using methods described in the Cochrane Handbook.[25] In cases where data need to be transformed (e.g., from median and interquartile range (IQR) scores to mean and standard deviation), we will use methods described in Weir 2018. [44]

Assessment of heterogeneity

Objective 1: Review of effectiveness

We will assess heterogeneity by visually inspecting forest plots and assessing I^2 statistics, with random-effects models used to address potential heterogeneity. We will consider an I^2 value of more than 50% to indicate substantial heterogeneity. Where we find substantial or considerable levels of heterogeneity, we will explore reasons for this heterogeneity using pre-planned subgroup and sensitivity analyses.

Assessment of reporting biases

Objective 1: Review of effectiveness

To minimize the impact of reporting biases, we will conduct comprehensive searches of multiple databases and other sources, including clinical trial registries, to identify any unpublished studies (see search methods). To assess whether trials included in any meta-analysis are affected by reporting bias, we will construct funnel plots[45] when a meta-analysis includes results of at least ten trials, following established guidance.[25]

Data synthesis

Objective 1: review of effectiveness

We plan to conduct pairwise meta-analysis for all primary and secondary outcomes listed above, for comparisons of a treatment order is more effective than no mandatory treatment order or treatment as usual and for outcome measures:

- immediately after the end of intervention

- at follow-up. If data are available, we will present data for short-term (< 3 months to 6 months), medium-term (> 6 months to 12 months) and longer-term (> 12 months) follow-up.

We will structure our main narrative summary of findings first by the intervention, using the predefined broad intervention headings listed under 'Phenomena of interest', second by comparison group and third by outcome. Within the narrative we will refer to the study participants, and to areas of similarity and/or differences (clinical heterogeneity) between the studies. Where there are studies which are relevant to a particular comparison and outcome, but for which there are no data suitable for inclusion in meta-analysis, we will provide a brief table summarising results reported by the study and refer to this tabulated data within a narrative synthesis.

For outcomes not included in the 'Summaries of findings' tables, we will provide a brief narrative synthesis of key findings.

Objective 2: qualitative evidence synthesis

Following the framework synthesis process already described, we will bring together the evidence in a narrative reporting the themes addressing barriers and facilitators to implementation of the interventions. The synthesised findings will be supported by GRADE-CERQual Summary of Qualitative Findings tables to present summaries of the findings and our assessments of confidence in these findings and Evidence Profiles tables to present detailed descriptions of our confidence assessments.[43]

Subgroup analysis and investigation of heterogeneity

Objective 1: Review of effectiveness

Where there are sufficient data within the quantitative evidence synthesis, we plan to undertake the following subgroup analyses, to explore differences in effect estimates based on:

- equity-related factors (e.g., age, sex, ethnicity, place of residence)
- the duration of the dependent substance usage prior to intervention, i.e. brief duration (less than 12 months); short duration (>12months – 60 months); medium duration (>60 months - 10 years); longer duration (>10 years)

- who provided or facilitated the interventions (i.e., social workers/ healthcare professional/ carer or volunteer).

We will use the test for subgroup interaction in Revman web (https://revman.cochrane.org/) to perform these analyses.

Sensitivity analysis

Objective 1: Review of effectiveness

We plan to explore statistical heterogeneity by carrying out sensitivity analyses to explore the impact of the following:

- trials judged as being at high risk of bias for the following categories: selection bias (e.g. trials with a non-random component in the generation sequence) and detection bias (e.g. studies with no blinding or incomplete blinding of outcome assessors)
- studies that appear to be visual outliers. We will do this by removing each study from the analysis.

Summary of findings and assessment of the certainty of the evidence

Objective 1: review of effectiveness

We will construct a summary of finding (SoF) table for the following comparison: treatment order versus no mandatory treatment or treatment as usual. The SoF table will include a summary of the key findings alongside a summary of the volume of the data, effect size and overall evidence quality. We will summarise the findings (measured immediately at the end of intervention) for our two primary outcomes (global functioning and quality of life) and the following additional outcomes:

- drug or alcohol use measures (self-reported or biological measures)
- severity of dependence
- depression and anxiety
- family/carer outcomes and
- adverse events.

The quality of the evidence for each outcome will be assessed independently by two review authors using GRADE.[46, 47] The final assessment will be based on consensus. The evidence will be assessed across the following five domains:

- methodological limitations (e.g. risk of bias due to poor study design or conduct)[48]
- imprecision of results (e.g. wide confidence intervals for treatment effect)[49, 50]
- inconsistency of results (e.g. large I^2 value)[51]
- indirectness of evidence (e.g. variations in participants, interventions, comparisons and outcomes)[52] and
- publication bias.[53]

We will then use these assessments to arrive at an overall judgement regarding quality of the evidence for each outcome, according to the following categories:

- high quality: further research is very unlikely to change our confidence in the estimate of effect
- moderate quality: further research is likely to have an important impact on our confidence in the estimate of effect, and may change the estimate
- low quality: further research is very likely to have an important impact on our confidence in the estimate of effect, and may change the estimate
- very low quality: we are very uncertain about the estimate.

Objective 2: qualitative evidence synthesis

Two review authors will apply the GRADE CERQual tool[43] to the qualitative findings to evaluate the overall confidence in the synthesised evidence for each finding based on four key criteria:

- methodological limitations: the extent to which there are concerns about the design or conduct of the primary studies that contributed evidence to an individual review finding[54]
- coherence: assessment of how clear and cogent (i.e., well-supported or compelling) the fit is between the data from the primary studies and a review finding that synthesises those data[55]

- adequacy: an overall determination of the degree of richness and quantity of data contributing to a review finding[56]
- relevance: the extent to which the body of evidence from the primary studies supporting a review finding is applicable to the context (perspective or population, phenomenon of interest, setting) specified in the review question.[57]

We will judge the confidence in each finding as:

- high: highly likely that the review finding is a reasonable representation of the phenomenon of interest[43]
- moderate: likely that the review finding is a reasonable representation of the phenomenon of interest[43]
- low: possible that the review findings is a reasonable representation of the phenomenon of interest[43]
- very low: not clear whether the review finding is a reasonable representation of the phenomenon of interest.[43]

The final assessment will be based on consensus among the review authors. All findings will start as high confidence and will then be downgraded if there are important concerns regarding any of the four CERQual components. Judgements made by the review team for each CERQual component will be clearly documented in the qualitative evidence profile. We will also produce a summary of qualitative findings tables and Evidence Profiles tables and generate the tables[58] using the Interactive Summary of Qualitative Findings (iSoQ) tool.

Integrating the quantitative and qualitative review findings

It will be important for decision-making to develop an overall understanding of intervention effect, and factors that create the context for barriers and facilitators to successful implementation. We will therefore integrate qualitative findings with the results of the intervention effectiveness review using an appropriate quantitative/qualitative data integration method from Cochrane QIMG[59] to determine if the programme theories and outcomes of interventions match research participant views and expectations. Our findings will help to explain why and how certain interventions seem to be more effective than others in specific contexts and for specific people. They will inform the design of future treatment effectiveness reviews by suggesting person-centred outcomes and generating hypotheses that can be tested out, for example, in subgroup analyses. They will also contribute to developing

more relevant, acceptable and effective interventions through greater understanding of the intervention experience from the perspective of substance users, their affected family members/significant others and staff.

There are various points in overall review production at which integration of quantitative and qualitative reviews can occur.[59, 60] We have integrated qualitative and quantitative perspectives during design of two complementary reviews including the review question formulation and we will integrate data during the synthesis. We have joint qualitative and quantitative review team membership with close collaboration and communication. This will enable us to establish a high level of coherence between the qualitative and quantitative evidence.

We will use a matrix approach adapted from one used previously in several Cochrane Reviews (for example [61, 62]). Our matrix will explore whether potential implementation factors (values, preferences and desired outcomes, acceptability, feasibility) identified in the qualitative evidence synthesis are acknowledged or addressed in the intervention programme theories in the related review of intervention effectiveness.

Team positionality / reflexivity statement

Adopting and transparently reporting a reflexive approach is good practice in qualitative research. Olmos-Vega et al[63] define reflexivity as "a set of continuous, collaborative, and multi-faceted practices through which researchers self-consciously critique, appraise, and evaluate how their subjectivity and context influence the research processes." (p. 241).
The core team (EF, BD, PC, CF) will keep a reflexive stance and keep a reflexive journal during all the stages of the review process by interrogating how our professional and personal assumptions could influence our interpretation of the data and our interpretation of our own findings. We will make clear any potential conflicts of interest, for example, regarding our views and attitudes towards particular findings and conclusions.

The core team (EF, BD, PC, CF) has varied professional and academic backgrounds including psychology (EF), development of qualitative evidence synthesis methodology (EF), information specialist/systematic review methodologist (CF), Cochrane systematic reviews (all), health professions (BD) and health and social care services research (all).

Some of the core team have personal experience of substance use problems through affected family members; for confidentiality and anonymity we choose not to disclose which team members. Members of the core team believe that people with substance use problems have a fundamental right to compassionate treatment, others have no strong views on the use of mandatory treatment orders. Core team members have not published any eligible studies and so there is a low risk of biased appraisal when assessing study methodological limitations. The core team has no preconceptions of what the findings of our reviews might reveal. The review process and progress will be regularly assessed and discussed between the review authors, topic experts (JD, CC, HC) and PPI and stakeholder contributors. Our review topic experts (JD, CC, HC) have expertise in drug and alcohol research and on people with involved in the criminal justice system and have authored several study publications on these topics. Our PPI lead has expertise in public health (RH). Engagement with our wider PPI and stakeholder contributor group (see section 'PPI and stakeholder engagement plan') throughout the review will contribute further topic expertise and minimise the risk of our preconceptions and backgrounds influencing our selection of qualitative studies for objective 2 and analysis and the interpretation of the findings.

To improve the transparency of this review our team will also undertake to complete an Equality Diversity and Inclusion evaluation for systematic reviews prior to running the literature searches.[64] We will update this evaluation at the end of the review.

PPI and stakeholder engagement plan

Meaningful PPI is central to this review, including PPI and stakeholder involvement and expertise in key documents and activities. We will write a PPI and stakeholder plan that will describe their involvement throughout the project. Our PPI co-investigator and people with lived experience have been involved in developing this protocol. From our initial discussions with them, we plan to include those priorities expressed as being of most importance (e.g. well-being, mental health, other health outcomes), and, if possible, the views and experiences of people who have benefitted from early intervention. We will also contact relevant third sector organisations, affected family members/significant others of people with substance use problems, people working in probation, and criminal justice social workers. We will consider any specific issues around equality, diversity, and inclusion issues for our target population throughout the review.

Dissemination / knowledge mobilisation

Our knowledge mobilisation plan will be developed with our PPI and stakeholder group throughout the course of the review. We will use appropriate traditional communication methods (e.g. research reports, scientific posters, and meeting presentations) and more innovative/ creative methods (e.g., two to three minute talks, podcasts, webinars, story boards, infographics, visual abstracts, blogs, social media posts). A key aim of this plan will be to describe how we intend to engage with and communicate the findings of this review to effectively reach the appropriate audiences.

Timeline

Table 1. GANTT chart of timeline for objectives 1 and 2

	October 2023	November 2023	December 2023	January 2024	February 2024	March 2024	April 2024	May 2024	June 2024	July 2024	August 2024	September 2024
Protocol development												
PROSPERO submission												
PPI & Stakeholder meetings												
Searches												
Screening and tagging studies												
Quality assessment												
Data extraction: quantitative review												
Data extraction: qualitative review												
Synthesis: quantitative review												
Synthesis: qualitative review												
Integrating quantitative & qualitative review results												
Drafting review 1 for publication												
Drafting review 2 for publication												
Knowledge mobilisation												
Review management												

Acknowledgements

We would like to acknowledge Professor Anne Whittaker and Professor Peter Matthews of the University of Stirling for feedback on the protocol, Professor Tessa Parkes of the University of Stirling for assistance with identifying topic experts and feedback on the original idea and Marlene Stewart of the University of Edinburgh for support in the preparation of the manuscript.

Contributions of authors

Please see Appendix 2 for the CRediT author statement.

Declarations of interest

Emma France declared no financial conflicts of interest. She reports payments for workshops or seminars on meta-ethnography from the Agency for Healthcare Research and Quality, USA; Evidence Synthesis Ireland; Ludwig-Maximilians-Universität München, Germany; University of Oslo, Norway; University of Stavanger, Norway; and Oslo Metropolitan University, Norway; personal payments. She also reports being an unpaid member and co-convenor of the Cochrane Qualitative and Implementation Methods Group and an unpaid Associate Scientific Editor of the Cochrane-Campbell Handbook for Qualitative Evidence Synthesis, whose publications we will use.

Pauline Campbell: no conflict of interest
Bridget Davis: no conflict of interest
Catriona Connell: no conflict of interest
Hannah Carver: no conflict of interest
Candida Fenton: no conflict of interest
Joshua Dumbrell: no conflict of interest
Rosie Hill: no conflict of interest

Figures and Tables

Table 1. GANTT chart
Appendix 1: Search strategy for MEDLINE
Appendix 2: CRediT author statement

Appendices

Appendix 1: Search strategy for MEDLINE

1 exp Substance-Related Disorders/pc, rh
2 (substance adj ("use" or misuse or abuse or problem* or disorder* or addiction* or dependen*)).ti,ab.
3 (Alcohol* adj ("use" or misuse or abuse or problem* or disorder* or addiction* or dependen*)).ti,ab.
4 (Drug* adj ("use" or misuse or abuse or problem* or disorder* or addiction* or dependen*)).ti,ab.
5 (Opioid* adj ("use" or misuse or abuse or problem* or disorder* or addiction* or dependen*)).ti,ab.
6 SUD.ti,ab.
7 detoxification.ti,ab.
8 "Alcoholic ketoacidosis".ti,ab.
9 or/1-8
10 "12 step programme*".ti,ab.
11 "alcohol treatment*".ti,ab.
12 "cognitive behavior* therapy".ti,ab.
13 "community based intervention*".ti,ab.
14 "community reinforcement".ti,ab.
15 detoxification.ti,ab.
16 "drug counselling".ti,ab.
17 "mandatory test*".ti,ab.
18 "medication assisted treatment*".ti,ab.
19 "non custodial".ti,ab.
20 "problem solving court*".ti,ab.
21 "random test*".ti,ab.
22 "regular test*".ti,ab.
23 "substance use treatment*".ti,ab.
24 "treatment order*".ti,ab.
25 "twelve step program*".ti,ab.
26 "recovery capital".ti,ab.
27 "therapeutic jurisprudence".ti,ab.
28 "Community payback order*".ti,ab.
29 or/10-28
30 exp Criminal Law/
31 exp Law Enforcement/mt [Methods]
32 exp Driving Under the Influence/pc [Prevention & Control]
33 "criminal justice".ti,ab.
34 Crime/pc [Prevention & Control]
35 crime*.ti,ab.
36 criminal.ti,ab.
37 judicial*.ti,ab.
38 or/30-37
39 9 and 29 and 38
40 "Abstinence tag*".ti,ab.
41 "Addressing substance related offending".ti,ab.

42 "Adult treatment court*".ti,ab.
43 "Alcohol abstinence monitoring requirement*".ti,ab.
44 "Alcohol abstinence tag*".ti,ab.
45 "Alcohol court*".ti,ab.
46 "Alcohol monitoring tag*".ti,ab.
47 "Alcohol rehabilitation requirement*".ti,ab.
48 "Alcohol specified activity requirement".ti,ab.
49 "Alcohol tag*".ti,ab.
50 "Alcohol treatment requirement*".ti,ab.
51 "Driving under the influence court".ti,ab.
52 "Driving while intoxicated court*".ti,ab.
53 "Drug abstinence order*".ti,ab.
54 "Drug abstinence requirement*".ti,ab.
55 "Drug court*".ti,ab.
56 "Drug rehabilitation requirement*".ti,ab.
57 "Drug treatment and testing order*".ti,ab.
58 "Drug treatment court*".ti,ab.
59 "Electronic alcohol tag*".ti,ab.
60 "Family drug and alcohol court*".ti,ab.
61 "Low intensity alcohol program".ti,ab.
62 "mandatory alcohol treatment*".ti,ab.
63 "Sobriety court*".ti,ab.
64 "Sobriety project".ti,ab.
65 AAMR.ti,ab.
66 DTTO.ti,ab.
67 or/40-66
68 39 or 67

Appendix 2: CRediT author statement

Term	Definition	Contributors
Conceptualization	Ideas; formulation or evolution of overarching research goals and aims	PC, EF, HC, JD, CC, RH, BD
Methodology	Development or design of methodology; creation of models	PC, EF, CF
Software	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components; designing of search strategies	CF
Validation	Verification, whether as a part of the activity or separate, of the overall replication/ reproducibility of results/experiments and other research outputs	N/A
Formal analysis	Application of statistical, mathematical, computational, or other formal techniques to analyse or synthesize study data	N/A
Investigation	Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection	N/A
Resources	Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools	N/A
Data Curation	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later reuse	N/A
Writing - Original Draft	Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation)	PC, EF
Writing - Review & Editing	Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre-or postpublication stages	BD, HC, JD, CC, RH, CF
Visualization	Preparation, creation and/or presentation of the published work, specifically visualization/ data presentation	N/A
Supervision	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team	MS, EF, PC
Project administration	Management and coordination responsibility for the research activity planning and execution	MS, EF, PC

Funding acquisition	Acquisition of the financial support for the project leading to this publication	N/A

References

1. Gallagher JR. Predicting Criminal Recidivism Following Drug Court: Implications for Drug Court Practice and Policy Advocacy. *Journal of Addictions & Offender Counseling* 2014;**35**:15-29. https://doi.org/10.1002/j.2161-1874.2014.00021.x
2. SAMHSA. *National Survey of Drug Use and Health (NSDUH) Releases*. 2021. URL: www.samhsa.gov (accessed 30 October, 2023).
3. SAMHSA. *Results from the 2021 National Survey on Drug Use and Health: Volume 1. Summary of national findings*. US: Substance Abuse and Mental Health Services Administration; 2023. URL: https://www.samhsa.gov/data/release/2021-national-survey-drug-use-and-health-nsduh-releases (accessed 27 October, 2023).
4. UK Government. *Review of drugs: phase one report*. UK: UK Government; 2020. URL: https://www.gov.uk/government/publications/review-of-drugs-phase-one-report (accessed 30 October, 2023).
5. Ramponi F, Walker S, Griffin S, Parrott S, Drummond C, Deluca P, *et al*. Cost-effectiveness analysis of public health interventions with impacts on health and criminal justice: An applied cross-sectoral analysis of an alcohol misuse intervention. *Health Econ* 2021;**30**:972-88. https://doi.org/10.1002/hec.4229
6. ONS. *Drug-related deaths and suicide in offenders in the community, England and Wales: 2011 to 2021*. UK: UK Government; 2023. URL: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/drugrelateddeathsandsuicideinoffendersinthecommunityenglandandwales/2011to2021 (accessed 30 October, 2023).
7. Trebilcock J. *No winners: the reality of short term prison sentences*. Imperial College, London: The Howard League for Penal Reform; 2011. URL: https://howardleague.org/wp-content/uploads/2016/03/No-Winners.pdf (accessed 30 October, 2023).
8. Scottish Government. *Review of community sentencing options for people with substance use problems: A summary of key findings*. Scotland; 2023. URL: https://www.gov.scot/binaries/content/documents/govscot/publications/research-and-analysis/2023/08/review-community-sentencing-options-people-substance-use-problems-summary-key-findings/documents/review-community-sentencing-options-people-substance-use-problems-summary-key-findings/review-community-sentencing-options-people-substance-use-problems-summary-key-findings/govscot%3Adocument/review-community-sentencing-options-people-substance-use-problems-summary-key-findings.pdf (accessed 5 October, 2023).
9. Eaton G, Mews A. *The impact of short custodial sentences, community orders and suspended sentence orders on reoffending*. UK: Ministry of Justice Analytical Series; 2019. URL: https://assets.publishing.service.gov.uk/media/5d1c732ee5274a08cdbe45c4/impact-short-custodial-sentences.pdf (accessed 30 October, 2023).
10. Wermink H, Been J, Schuyt P, van Wijck P, Blokland A. The price of retribution: evidence from the willingness to pay for short-term prison sentences compared to community service orders. *Journal of Experimental Criminology* 2023:1-32.
11. Perkins A, Livingston W, Cairns B, Dumbrell J, al. e. *Understanding Substance Use and the Wider Support Needs of Scotland's Prison Population*. Scotland: Scottish Government; 2022. URL: https://www.gov.scot/binaries/content/documents/govscot/publications/research-and-analysis/2022/09/understanding-substance-use-wider-support-needs-scotlands-prison-population/documents/understanding-substance-use-wider-support-needs-scotlands-prison-population/understanding-substance-use-wider-support-needs-scotlands-prison-

population/govscot%3Adocument/understanding-substance-use-wider-support-needs-scotlands-prison-population.pdf (accessed 30 October, 2023).
12. Werb D, Kamarulzaman A, Meacham MC, Rafful C, Fischer B, Strathdee SA, *et al.* The effectiveness of compulsory drug treatment: a systematic review. *International Journal of Drug Policy* 2016;**28**:1-9.
13. Bright DA, Martire KA. Does Coerced Treatment of substance-using offenders lead to improvements in substance use and recidivism? A Review of the Treatment Efficacy Literature. *Australian Psychologist* 2013;**48**:69-81.
14. Hall W, Lucke J. *Legally coerced treatment for drug using offenders: ethical and policy issues*. NSW Bureau of Crime Statistics and Research; 2010).
15. Zanis DA, Mulvaney F, Coviello D, Alterman AI, Savitz B, Thompson W. The effectiveness of early parole to substance abuse treatment facilities on 24-month criminal recidivism. *J Drug Issues* 2003;**33**:223-35.
16. Trood MD, Spivak BL, Ogloff JRP. A systematic review and meta-analysis of the effects of judicial supervision on recidivism and well-being factors of criminal offenders. *Journal of Criminal Justice* 2021;**74**:1. https://doi.org/https://doi.org/10.1016/j.jcrimjus.2021.101796
17. Moury C, Escada M. Understanding successful policy innovation: The case of Portuguese drug policy. *Addiction* 2023;**118**:967-78. https://doi.org/10.1111/add.16099
18. Kammersgaard T. From punishment to help? Continuity and change in the Norwegian decriminalization reform proposal. *Int J Drug Policy* 2023;**113**:103963. https://doi.org/10.1016/j.drugpo.2023.103963
19. Baughman M, Tossone K, Singer MI, Flannery DJ. Evaluation of Treatment and Other Factors That Lead to Drug Court Success, Substance Use Reduction, and Mental Health Symptomatology Reduction Over Time. *International Journal of Offender Therapy and Comparative Criminology* 2019;**63**:257. https://doi.org/https://doi.org/10.1177/0306624X18789832
20. Green M, Rempel M. Beyond Crime and Drug Use: Do Adult Drug Courts Produce Other Psychosocial Benefits. *J Drug Issues* 2012;**42**:156-77. https://doi.org/10.1177/0022042612446592
21. Lindenfeld Z, Kim S, Chang JE. Assessing the effectiveness of problem-solving courts on the reduction of overdose deaths in the United States: A difference-in-difference study. *Drug Alcohol Depend Rep*; https://dx.doi.org/10.1016/j.dadr.2022.100088. https://doi.org/https://dx.doi.org/10.1016/j.dadr.2022.100088
22. United Nations. *United Nations: Office on Drugs and Crime. World Drug Report 2022*. 2022. URL: https://www.unodc.org/unodc/en/data-and-analysis/world-drug-report-2022.html (accessed).
23. Perry AE, Darwin Z, Godfrey C, McDougall C, Lunn J, Glanville J, *et al.* The effectiveness of interventions for drug-using offenders in the courts, secure establishments and the community: a systematic review. *Subst Use Misuse* 2009;**44**:374-400. https://doi.org/10.1080/10826080802347560
24. Brunton G, Booth A, Carroll C. Chapter 9. Framework Synthesis. Draft version (August 2023) version 1. In: Noyes J, . , Harden A, . eds. Cochrane-Campbell Handbook for Qualitative Evidence Synthesis. London: Cochrane; 2023.
25. Higgins JPT, . , Thomas J, . , Chandler J, . , Cumpston M, . , Li T, . , Page MJ, . , *et al. Cochrane Handbook for Systematic Reviews of Interventions version 6.4 (updated August 2023)* Cochrane; 2023. URL: www.training.cochrane.org/handbook.
26. Noyes J, Booth A, Cargo M, Flemming K, Harden A, Harris J, . , *et al.* Qualitative evidence. In: Cochrane Handbook for Systematic Reviews of Interventions: Cochrane; 2019: 525-45.

27. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, *et al.* The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;**372**:n71. https://doi.org/10.1136/bmj.n71
28. Tong A, Flemming K, McInnes E, Oliver S, Craig J. Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ. *BMC Med Res Methodol* 2012;**12**:181. https://doi.org/10.1186/1471-2288-12-181
29. Campbell M, McKenzie JE, Sowden A, Katikireddi SV, Brennan SE, Ellis S, *et al.* Synthesis without meta-analysis (SWiM) in systematic reviews: reporting guideline. *BMJ* 2020;**368**:l6890. https://doi.org/10.1136/bmj.l6890
30. Justice Analytical Services. *Review of community sentencing options for people with substance use problems: A summary of key findings*. Scotland: Scottish Government; 2023. URL: https://www.gov.scot/binaries/content/documents/govscot/publications/research-and-analysis/2023/08/review-community-sentencing-options-people-substance-use-problems-summary-key-findings/documents/review-community-sentencing-options-people-substance-use-problems-summary-key-findings/review-community-sentencing-options-people-substance-use-problems-summary-key-findings/govscot%3Adocument/review-community-sentencing-options-people-substance-use-problems-summary-key-findings.pdf (accessed 10 October, 2023).
31. Cochrane Effective Practice and Organisation of Care (EPOC). *EPOC Resources for review authors. What study designs can be considered for inclusion in an EPOC review and what should they be called?* Cochrane; 2017. URL: www.epoc.cochrane.org/sites/epoc.cochrane.org/files/public/uploads/Resources-for-authors2017/what_study_designs_should_be_included_in_an_epoc_review.pdf (accessed 10 October, 2023).
32. International Consortium for Health Outcomes Measurement (ICHOM). *ICHOM: Addiction*. 2022. URL: https://connect.ichom.org/wp-content/uploads/2022/01/29-Addiction_Reference_Guide_V4.0_24.01.2022.pdf (accessed 17 October, 2023).
33. Ames H, Glenton C, Lewin S. Purposive sampling in a qualitative evidence synthesis: a worked example from a synthesis on parental perceptions of vaccination communication. *BMC Med Res Methodol* 2019;**19**:26. https://doi.org/10.1186/s12874-019-0665-4
34. Benoot C, Hannes K, Bilsen J. The use of purposeful sampling in a qualitative evidence synthesis: A worked example on sexual adjustment to a cancer trajectory. *BMC Med Res Methodol* 2016;**16**:21. https://doi.org/10.1186/s12874-016-0114-6
35. Noyes J, Booth A, Flemming K, Garside R, Harden A, Lewin S, *et al.* Cochrane Qualitative and Implementation Methods Group guidance series-paper 3: methods for assessing methodological limitations, data extraction and synthesis, and confidence in synthesized qualitative findings. *J Clin Epidemiol* 2018;**97**:49-58. https://doi.org/10.1016/j.jclinepi.2017.06.020
36. Cochrane Methods Equity. *PROGRESS-Plus framework.* The Cochrane Collaboration; 2021. URL: https://methods.cochrane.org/equity/projects/evidence-equity/progress-plus (accessed 28 May, 2023).
37. ICD-11. *International Classification of Diseases: 11th Revision.* World Health Organization; 2023. URL: https://icd.who.int/en (accessed 30 October, 2023).
38. Hoffmann TC, Glasziou PP, Boutron I, Milne R, Perera R, Moher D, *et al.* Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. *BMJ* 2014;**348**:g1687. https://doi.org/10.1136/bmj.g1687
39. Ritchie J, Spencer L. Qualitative data analysis for applied policy research. . In: Bryman A BR, editor. *Analyzing Qualitative Data*London: Routledge 1994:173-94.
40. Cochrane Effective Practice and Organisation of Care (EPOC). *Suggested risk of bias criteria for EPOC reviews*. 2017. URL:

https://epoc.cochrane.org/sites/epoc.cochrane.org/files/public/uploads/Resources-for-authors2017/suggested_risk_of_bias_criteria_for_epoc_reviews.pdf (accessed 17 October, 2023).
41. McGuinness LA, Higgins JPT. Risk-of-bias VISualization (robvis): An R package and Shiny web app for visualizing risk-of-bias assessments. *Res Synth Methods* 2021;**12**:55-61. https://doi.org/10.1002/jrsm.1411
42. CASP. *Qualitative studies checklist*. 2018. URL: https://casp-uk.net/images/checklist/documents/CASP-Qualitative-Studies-Checklist/CASP-Qualitative-Checklist-2018_fillable_form.pdf (accessed).
43. Lewin S, Booth A, Glenton C, Munthe-Kaas H, Rashidian A, Wainwright M, *et al.* Applying GRADE-CERQual to qualitative evidence synthesis findings: introduction to the series. *Implement Sci* 2018;**13**:2. https://doi.org/10.1186/s13012-017-0688-3
44. Weir CJ, Butcher I, Assi V, Lewis SC, Murray GD, Langhorne P, *et al.* Dealing with missing standard deviation and mean values in meta-analysis of continuous outcomes: a systematic review. *BMC Med Res Methodol* 2018;**18**:25. https://doi.org/10.1186/s12874-018-0483-0
45. Egger M, Davey Smith G, Schneider M, Minder C. Bias in meta-analysis detected by a simple, graphical test. *BMJ* 1997;**315**:629-34. https://doi.org/10.1136/bmj.315.7109.629
46. Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, *et al.* GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. *BMJ* 2008;**336**:924-6. https://doi.org/10.1136/bmj.39489.470347.AD
47. Guyatt GH, Oxman AD, Schunemann HJ, Tugwell P, Knottnerus A. GRADE guidelines: a new series of articles in the Journal of Clinical Epidemiology. *J Clin Epidemiol* 2011;**64**:380-2. https://doi.org/10.1016/j.jclinepi.2010.09.011
48. Guyatt GH, Oxman AD, Vist G, Kunz R, Brozek J, Alonso-Coello P, *et al.* GRADE guidelines: 4. Rating the quality of evidence--study limitations (risk of bias). *J Clin Epidemiol* 2011;**64**:407-15. https://doi.org/10.1016/j.jclinepi.2010.07.017
49. Schunemann HJ, Neumann I, Hultcrantz M, Brignardello-Petersen R, Zeng L, Murad MH, *et al.* GRADE guidance 35: update on rating imprecision for assessing contextualized certainty of evidence and making decisions. *J Clin Epidemiol* 2022;**150**:225-42. https://doi.org/10.1016/j.jclinepi.2022.07.015
50. Zeng L, Brignardello-Petersen R, Hultcrantz M, Mustafa RA, Murad MH, Iorio A, *et al.* GRADE Guidance 34: update on rating imprecision using a minimally contextualized approach. *J Clin Epidemiol* 2022;**150**:216-24. https://doi.org/10.1016/j.jclinepi.2022.07.014
51. Guyatt GH, Oxman AD, Kunz R, Woodcock J, Brozek J, Helfand M, *et al.* GRADE guidelines: 7. Rating the quality of evidence--inconsistency. *J Clin Epidemiol* 2011;**64**:1294-302. https://doi.org/10.1016/j.jclinepi.2011.03.017
52. Guyatt GH, Oxman AD, Kunz R, Woodcock J, Brozek J, Helfand M, *et al.* GRADE guidelines: 8. Rating the quality of evidence--indirectness. *J Clin Epidemiol* 2011;**64**:1303-10. https://doi.org/10.1016/j.jclinepi.2011.04.014
53. Guyatt GH, Oxman AD, Montori V, Vist G, Kunz R, Brozek J, *et al.* GRADE guidelines: 5. Rating the quality of evidence--publication bias. *J Clin Epidemiol* 2011;**64**:1277-82. https://doi.org/10.1016/j.jclinepi.2011.01.011
54. Munthe-Kaas H, Bohren MA, Glenton C, Lewin S, Noyes J, Tuncalp O, *et al.* Applying GRADE-CERQual to qualitative evidence synthesis findings-paper 3: how to assess methodological limitations. *Implement Sci* 2018;**13**:9. https://doi.org/10.1186/s13012-017-0690-9
55. Colvin CJ, Garside R, Wainwright M, Munthe-Kaas H, Glenton C, Bohren MA, *et al.* Applying GRADE-CERQual to qualitative evidence synthesis findings-paper 4: how to assess coherence. *Implement Sci* 2018;**13**:13. https://doi.org/10.1186/s13012-017-0691-8

56. Glenton C, Carlsen B, Lewin S, Munthe-Kaas H, Colvin CJ, Tuncalp O, *et al.* Applying GRADE-CERQual to qualitative evidence synthesis findings-paper 5: how to assess adequacy of data. *Implement Sci* 2018;**13**:14. https://doi.org/10.1186/s13012-017-0692-7
57. Noyes J, Booth A, Lewin S, Carlsen B, Glenton C, Colvin CJ, *et al.* Applying GRADE-CERQual to qualitative evidence synthesis findings-paper 6: how to assess relevance of the data. *Implement Sci* 2018;**13**:4. https://doi.org/10.1186/s13012-017-0693-6
58. Lewin S, Bohren M, Rashidian A, Munthe-Kaas H, Glenton C, Colvin CJ, *et al.* Applying GRADE-CERQual to qualitative evidence synthesis findings-paper 2: how to make an overall CERQual assessment of confidence and create a Summary of Qualitative Findings table. *Implement Sci* 2018;**13**:10. https://doi.org/10.1186/s13012-017-0689-2
59. Harden A, Thomas J, Cargo M, Harris J, Pantoja T, Flemming K, *et al.* Cochrane Qualitative and Implementation Methods Group guidance series—paper 5: methods for integrating qualitative and implementation evidence within intervention effectiveness reviews. *Journal of Clinical Epidemiology* 2018;**97**:70-8.
60. Noyes J, Booth A, Moore G, Flemming K, Tunçalp Ö, Shakibazadeh E. Synthesising quantitative and qualitative evidence to inform guidelines on complex interventions: clarifying the purposes, designs and outlining some methods. *BMJ Global Health* 2019;**4**:e000893.
61. France E, Uny I, Turley R, Thomson K, Noyes J, Jordan A, *et al.* A meta-ethnography of how children and young people with chronic non-cancer pain and their families experience and understand their condition, pain services, and treatments. *Cochrane Database of Systematic Reviews* 2023; 10.1002/14651858.CD014873.pub2. https://doi.org/10.1002/14651858.CD014873.pub2
62. Munabi-Babigumira S, Glenton C, Lewin S, Fretheim A, Nabudere H. Factors that influence the provision of intrapartum and postnatal care by skilled birth attendants in low- and middle-income countries: a qualitative evidence synthesis. *Cochrane Database of Systematic Reviews* 2017.
63. Olmos-Vega FM, Stalmeijer RE, Varpio L, Kahlke R. A practical guide to reflexivity in qualitative research: AMEE Guide No. 149. *Med Teach* 2022; 10.1080/0142159X.2022.2057287:1-11. https://doi.org/10.1080/0142159X.2022.2057287
64. Centre for Ethnic Health Research. *Equality impact assessment (EqIA) form for systematic reviews*. UK: NIHR Applied Research Collaboration East Midlands; 2023. URL: https://arc-em.nihr.ac.uk/clahrcs-store/equality-impact-assessment-eqia-toolkit (accessed 1 September, 2023).