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Evidence Check

Drug and alcohol psychosocial interventions

An Evidence Check rapid review brokered by the Sax Institute
for NSW Ministry of Health, July 2020.

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July 2020

Enquiries regarding this report may be directed to the:

Manager
Knowledge Exchange Program
Sax Institute
www.saxinstitute.org.au
knowledge.exchange@saxinstitute.org.au
Phone: +61 2 9188 9500

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Executive summary

Background

Psychosocial interventions are a mainstay part of treatment for people with alcohol or other drug (AOD) use issues in Australia. It is therefore important that health professionals and other people working in AOD treatment centres have access to treatment guidelines that are informed by the most up-to-date and best available evidence. In December 2019, the NSW Ministry of Heath commissioned the University of Sydney's Matilda Centre for Research in Mental Health and Substance Use to undertake a rapid review and evidence check of the recent literature on AOD psychosocial treatments. It is anticipated that findings from this review will form a key input in the forthcoming edition of the 'NSW Health Drug and Alcohol Psychosocial Interventions Professional Practice Guidelines'[1], which were first published in May 2008.

Review questions

This review aimed to address the following specific questions:

Question 1: What have been shown to be the most effective psychosocial interventions for treating people with AOD issues?

Question 2: What psychosocial interventions are most effective for treating people and improving outcomes for special population groups?

Question 3: What are the effective frameworks (i.e. process/care delivery models) that support the delivery of psychosocial interventions?

Summary of methods

In January 2020, a systematic search of the secondary literature (systematic/other reviews published since 2008) was carried out in the following databases: PsycINFO, Medline, EMBASE, Scopus and the Cochrane Database of Systematic Reviews (via The Cochrane Library) with minimal limits imposed. Returned articles were title/abstract screened (two independent reviewers), and full-text screened (one reviewer) against a-priori inclusion and exclusion criteria. Articles retained for inclusion were sorted according to which question/s they were relevant to. All relevant data on review characteristics and effectiveness outcomes were extracted. The best available evidence for each AOD psychosocial intervention (Question 1), special population (Question 2) and therapeutic

process/service delivery model (Question 3) was assessed for levels and quality of evidence using well-established criteria. Selected guidelines (published since 2013), reports and other grey literature were used to supplement and build on the evidence derived from the database searches of the published literature.

Key findings

The database searches returned 7,752 articles, of which 132 articles were retained for final inclusion.

Question 1: What have been shown to be the most effective psychosocial interventions for treating people with AOD issues?

- Evidence, mostly from randomised controlled trials and controlled studies, supports a number of psychosocial interventions for use in AOD-using populations, especially people with alcohol, tobacco and, to a lesser extent, cannabis use
- There were high levels of heterogeneity in terms of the number of treatment sessions (1–50+ sessions) and duration (5–60+ minutes), types of outcomes assessed (self-report, physiological, continuous vs point prevalence abstinence), and assessment time-points (during treatment, post-treatment, 1 week, 1, 3, 6, 9, 12+ months)
- There was much greater focus on outcomes related to AOD use reductions or abstinence/smoking cessation, than general health and wellbeing
- Overall, psychosocial interventions were more likely to outperform no/minimal intervention or treatment as usual, than an 'active' control/comparison (e.g. another intervention); results were more inconsistent with regards to the longevity of effects or whether use of two or more adjunctive psychosocial treatments was better than a single standalone psychosocial treatment.

Question 2: What psychosocial interventions are most effective for treating people and improving outcomes for special population groups?

- There was evidence to support the effectiveness of psychosocial interventions based on Motivational Interviewing (MI) with and without Cognitive Behavioural Therapy (CBT) among a number of special population groups, including pregnant women, people with co-occurring mental health and AOD use issues, and people in the criminal justice system
- Only one review conducted in Indigenous populations was identified, which included one study of limited quality on smoking cessation in Australian Indigenous people. More high-quality research in Indigenous populations is needed to inform guidelines on which interventions are most effective and acceptable
- For people with co-occurring AOD and mental health issues, reviews tended to pool together findings from people with different types of substance use and different types of mental health conditions. Thus, there is still a lack of evidence on the effectiveness of interventions within specific combinations of comorbidities

- Evidence for family-based therapy was limited by its evaluation among adolescents only; more evidence is needed to support its use in other population groups
- There was no evidence found for psychosocial interventions for many special population groups, including Lesbian Gay Bisexual Transgender Intersex and Queer (LGBTIQ+), rural and remote, Culturally and Linguistically Diverse (CALD), or people with neurocognitive issues.

Question 3: What are the effective frameworks (i.e. process/care delivery models) that support the delivery of psychosocial interventions?

- Technology-based interventions (TBIs), including telepsychology, were effective in general, yet there were no reviews of studies on the implementation of these interventions in real-world clinical practice
- Despite widespread support in clinical guidelines, and the fact that they are well-established in practice, therapeutic processes and service delivery models have received limited attention in the recent research literature
- There was a dearth of research on general therapist and client-related factors and process issues (e.g., the therapeutic alliance, non-judgmental and empathetic communication) since 2008, yet these factors have been accepted as fundamental aspects of AOD psychosocial treatment.

Quality of the evidence

For all three questions, reviewers assigned a range of levels (I–IV) and grades (A–D) for the best available evidence, which reflected significant variability in the quality of the best available recent evidence. For AOD psychosocial interventions in general, CBT and MI have accrued a high level of evidence of satisfactory or better quality to support their effectiveness. TBIs have both a high level and high quality of evidence, however, for other models of service delivery and process factors it was difficult to establish levels and quality of evidence.

Gaps in the evidence

Some evidence gaps that were common across all three questions included:

- Focus on outcomes related to reducing and/or ceasing/abstaining from AOD use, and few studies reporting on outcomes related to general health and wellbeing. Despite widespread support in clinical guidelines, and the fact that they are well-established in practice, therapeutic processes and service delivery models have received limited attention in the recent research literature
- Relative neglect of study designs other than RCTs, which may provide limited information with regards to the feasibility, acceptability, utility and uptake of psychosocial interventions in real-world clinical practice

– Substantial heterogeneity in the studies included in reviews in terms of severity of AOD-using populations, treatment settings, duration and intensity of intervention and control/comparison, and types of outcomes included.

Conclusion

This review provides a comprehensive and rigorous synthesis and critique of the recent evidence base for psychosocial interventions to treat people with AOD use issues. The review provided up-to-date insights into the effectiveness of AOD psychosocial interventions, with reference to co-existing state-based, national and international guidelines and policy documents. In light of identified evidence gaps, a future separate review of primary research studies is warranted.

Background

Alcohol and other drug (AOD) issues are common and highly burdensome in the Australian community.[2] According to the most recent estimates, almost half of Australians aged 14 years or older (49.1%) engage in daily smoking, risky drinking or recent other drug use (including cannabis, ecstasy, meth/amphetamines, cocaine).[3] Meanwhile, one in four Australians (24.7%) experience an AOD use disorder over the course of their lifetime.[4] Taken together, the use of alcohol, tobacco and other drugs (including cannabis and meth/amphetamines) is responsible for 15.9% of the total burden of disease and injury in Australia.[5] The timely delivery of effective treatments is of paramount importance in order to reduce the far-reaching and costly impacts of AOD issues on the individual affected, the people who support them, and society more generally.

In 2017–18, more than 120,000 people sought treatment for their AOD across Australia (not including pharmacotherapies).[6] Of these, more than 26,000 sought care in NSW, the jurisdiction with the highest number of agencies (390) across the country.[6] Psychosocial interventions (e.g. counselling) remain the most common type of treatment for people with AOD use issues in jurisdictions across Australia.[6] The *'NSW Health Drug and Alcohol Psychosocial Interventions Professional Practice Guidelines'* (henceforth the *'2008 Professional Practice Guidelines'*) [1], were published in May 2008, and were the first generic guidelines for NSW health professionals on the use of psychosocial interventions for treating AOD use issues. These guidelines aimed to provide:

> *"…a benchmark for the delivery of quality psychosocial interventions for [AOD] treatment services. They [recognised] the value of such interventions within the [AOD] field, and [supported] professional implementation of them. They [emphasised] the need for better understanding about the purpose and benefits of these interventions."*

The 2008 Professional Practice Guidelines represent a critical document used by both specialist and generalist health and allied health professionals working across a variety of settings, including NGO (non-government organisation) workers with broader professional backgrounds. These guidelines synthesise and evaluate the available evidence on a range of psychosocial interventions for treating AOD use issues and provide evidence-based recommendations for treating health professionals. In 2013, they were reviewed for currency and found to be current. Since this time, however, there have been many developments in this setting including the fast-expanding delivery and use of e-health interventions. In light of this, in December 2019, the NSW Ministry of Health (MoH) commissioned an Evidence Check and rapid review of the existing evidence to inform an update to the 2008 Professional Practice Guidelines.

With reference to the available secondary literature (i.e. reviews and guidelines in the published and grey literature), this review aimed to address three key questions centred on the effectiveness of AOD psychosocial interventions.

Specifically, these questions were:

- **Question 1:** What have been shown to be the most effective psychosocial interventions for treating people with AOD issues?
- **Question 2:** What psychosocial interventions are most effective for treating people and improving outcomes for special population groups?
- **Question 3:** What are the effective frameworks (i.e. process/care delivery models) that support the delivery of psychosocial interventions?

In addressing all three questions, the review was to provide comment on the strength and associations found, why or why not effects were observed in the reviewed studies, and the gaps in the evidence base where primary evidence needs to be reviewed (in a separate future review exercise). Psychosocial interventions were defined in line with the 2008 Professional Practice Guidelines.[1 (p. 11)] Effectiveness outcomes were broadly defined across the domains of general health, wellbeing and reduction of AOD use-related harms, again with reference to the domains focused on in the 2008 Professional Practice Guidelines.[1 (p. 28)] In keeping with the broad usage of these guidelines, the evidence was collated for both adolescents and adults (aged 12 years and older), and in diverse treatment settings located in countries similar to Australia (e.g UK, US, Canada, Western Europe).

This review will help to ensure that the updated Professional Practice Guidelines document:

- remains current, useful and evidence-informed
- is aligned with current policy priorities
- reflects co-existing guidelines in this setting.

Methods

To identify and synthesise the secondary literature on AOD psychosocial interventions, a systematic review protocol was employed. The protocol was developed by the review team in accordance with the PI(E)COS and PRISMA frameworks and revised in consultation with the NSW Ministry of Health (MoH). Given that this review was designed to be a Rapid Review and Evidence Check, it focused on the secondary literature including systematic and other reviews of the primary literature, and most recent guidelines on the use of psychosocial interventions in treating AOD use issues.

Search strategy

Key relevant electronic databases were searched for eligible reviews and guidelines: PsycINFO, Medline, EMBASE, Scopus, and the Cochrane Database of Systematic Reviews (via The Cochrane Library). Search results were limited to the English language, comprising human subjects aged 12 years and above, and published between 1 January 2008 (2013 for guidelines) and 31 January 2020.

The initial search strategy was developed in line with NSW MoH proposal specifications, the 2008 Professional Practice Guidelines[1], recent systematic reviews of AOD use and treatment[7,8], and discussions with review team members, which included clinical psychologists working in AOD treatment. The search strategy was then refined via consultation and iterative review with a specialist academic librarian.

The strategy used a combination of free text/keyword terms and Medical Subject Headings (MeSH). Since different databases use different search terms, these were adapted to each database as required. Variations of search terms pertaining to the following key conceptual domains were used:

1. Alcohol and other drug/substance use-related terms (e.g., alcohol abuse, drug abuse, substance abuse)
2. Psychosocial intervention-related terms (therapy, psychotherapy, cognitive behavioural therapy)
3. Systematic and literature review-related terms (review, synthesis, meta-analysis).

Adjacency terms were also used to enhance the flexibility and comprehensiveness of the search and accommodate variations in the wording of relevant terms and phrases. The full search strategy for each database is provided in Appendix A.

In the final stages of the search strategy, selected clinical guidelines and grey literature were used to supplement published reviews identified through the database searches. Selected literature reviews/reports (2008–2019) and guidelines (2013–2019) were drawn from a list of key reference documents provided by the NSW Ministry of Health (e.g. the Western Australia Mental Health Commission, Counselling Guidelines: Alcohol and other drug issues. Fourth edition 2019[9]; Australian

National Comorbidity Guidelines[10]; US Principles of Effective Treatment, National Institute on Drug Abuse (NIDA)[11]) and added to as needed by the review team. In addition, the BMJ Best Practice and NICE Guidelines databases were searched to identify the most recent published clinical guidelines relevant to the AOD setting. In this way, the grey literature and clinical guidelines were used to:

i) Inform and build on the published evidence base in instances where there were significant gaps and/or limitations in the published literature (e.g. lag in the published literature, some special populations not well covered)

ii) Contextualise the final report findings in terms of the current policy priorities and the Australian/NSW clinical landscape.

Data screening and extraction

Selection procedures followed PRISMA guidelines.[12] As can be seen in Figure 1, these procedures were streamlined across all three questions, except that for Questions 2 and 3, additional eligibility criteria were applied to the full-text items deemed eligible for Question 1 (e.g. for Question 2, focus on special populations including individuals with co-occurring mental health issues; for Question 3, focus on care process/service delivery model rather than effectiveness of specific psychosocial intervention/s; see Appendix B for full eligibility criteria).

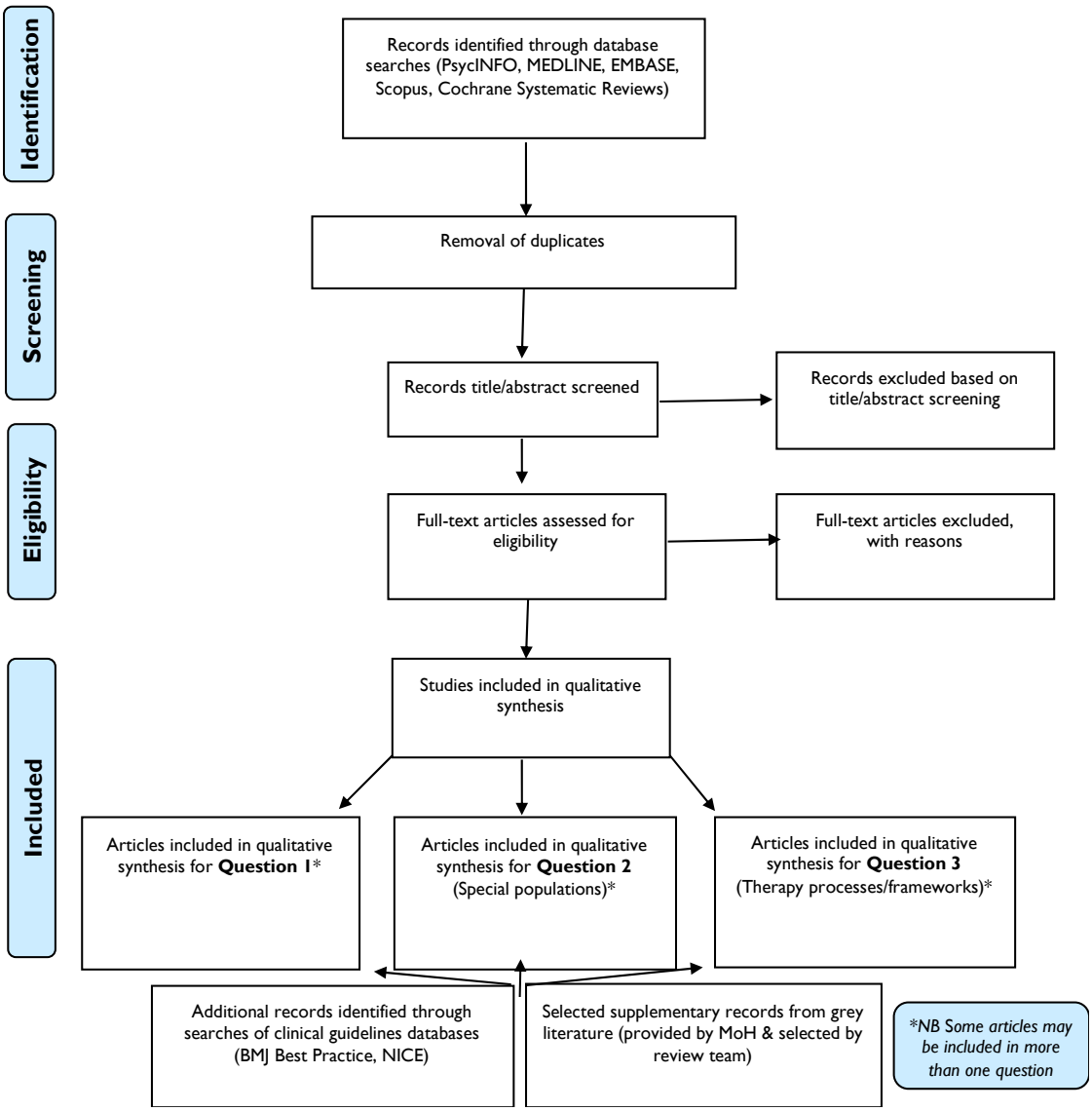

Figure 1—PRISMA flow diagram.

The data screening process (i.e. removal of duplicates, title/abstract screening, full text screening) was performed using the Covidence online data management software. Prior to undertaking each step in the data screening process, the review team met to pilot a sample of articles for inclusion/exclusion. This ensured consistency in interpretations regarding relevance and eligibility. After removing all duplicates, two reviewers (the project co-lead, AF, and another member of the review team) independently screened titles and abstracts for relevance and potential inclusion in the review according to specified eligibility criteria derived from PI(E)COS (i.e. Participants, Intervention/Exposure, Comparison, Outcomes, Setting, Study type/design; see Appendix B).

Discrepancies were discussed and resolved in consultation with a third reviewer. Once discrepancies were resolved, those returned articles judged as potentially eligible were retained for the subsequent step involving independent, full-text screening by a member of the review team. Given the short time

frame of this review, and very high inter-rater agreement on title-abstract screening (>95% agreement), it was decided that full texts would be assessed for inclusion by one reviewer only.

Quality of the evidence assessment

To assess the quality of the evidence relating to the use of psychosocial interventions in treating people with AOD use issues, a Hierarchy of Evidence was used based on publications by the National Health and Medical Research Council (NHMRC), the Oxford Centre for Evidence-based Medicine Levels of Evidence, and the Melnyk and Fineout-Overholt (see Table 1).

Table 1— Evidence quality assessment levels.

Level of evidence	Description
I	Evidence obtained from a systematic review of randomised control trials (Level II studies)
II	Evidence obtained from at least one well-designed randomised control trial
III	Evidence obtained from well-designed controlled trials without randomisation
IV	Evidence obtained from well-designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case series
V	Evidence obtained from systematic reviews of descriptive and qualitative studies
VI	Evidence obtained from single descriptive and qualitative studies
VII	Expert opinion from clinicians, authorities and/or reports of expert committees or based on physiology

In addition, the NHMRC body of evidence matrix with adapted wording was used to summarise the evidence within the reviews (see Table 2). This matrix considered five components, including evidence base, consistency, clinical impact, generalisability, and applicability, and graded each component from A to D (with A being excellent and D being poor).

In determining the level of evidence (Table 1) and grading the quality of the evidence (Table 2) for a specific psychosocial intervention (Question 1), special population (Question 2) or care delivery/process (Question 3), the review team applied the descriptions to the best quality/highest level of evidence available in the reviews (e.g. most recently published Cochrane Systematic Review), in line with other recently published Australian guidelines for psychological treatments (e.g., The Australian Psychological Society, 2018). This process was used to ensure that studies were only counted once as contributing to the assigned level of evidence and evidence grade (as it was expected that the same study may appear in multiple reviews).

To ensure consistency, the review team met and collaboratively assessed the quality of the evidence in terms of evidence level and grade for a subset of reviews. Any disagreements were discussed and resolved prior to proceeding with the remainder of the reviews.

Table 2—NHMRC body of evidence matrix to grade the quality of the evidence.

Component	**A**	**B**	**C**	**D**
	Excellent	**Good**	**Satisfactory**	**Poor**
Evidence base	Several level I or II studies with low risk of bias or a systematic review of level I or II studies with low risk of bias	One or two Level II studies with low risk of bias or multiple level III studies with low risk of bias or a systematic review of above	Level III studies with low risk of bias, or level I or II studies with moderate risk of bias or a systematic/other type literature review of above	Level IV studies, or level I to III studies with high risk of bias or a systematic/other literature review of above
Consistency	All studies consistent	Most studies consistent and inconsistency may be explained	Some inconsistency reflecting genuine uncertainty around clinical question	Evidence is inconsistent
Clinical impact	Very large	Substantial	Moderate	Slight or restricted
Generalisability	Population/s studied in body of evidence are the same as the target population in question	Population/s studied in the body of evidence are similar to the target population in question	Population/s studied in body of evidence differ to target population in question, but it is clinically sensible to apply this evidence to the target population	Population/s studied in body of evidence differ to target population and hard to judge whether it is sensible to generalise to the target population

Findings

Search results

The database searches returned a total of 7,752 articles. Of these, 1,591 duplicates and 5,900 irrelevant articles were removed based on title and abstract screening (see Figure 2 for PRISMA flow chart). Full-text screening of the remaining 261 articles excluded a further 130, mostly due to wrong intervention type (n=35; e.g. a non-psychosocial intervention), wrong article type (n=28; e.g. conference proceedings, unpublished dissertation), or an updated/more recent Cochrane Review/other systematic review published (n=18). This left 131 articles for final inclusion.

The remaining 131 articles were then sorted according to which question (1, 2, and/or 3) they were most relevant to. For example, articles synthesising the evidence specific to a special population of interest (at the exclusion of other populations) were assigned to Question 2, while articles that focused on a particular therapeutic process and/or care delivery model as opposed to specific psychosocial interventions, were assigned to Question 3. Other articles that did not have either of these specific focuses were retained for Question 1. In several instances, a review article was used across multiple questions (i.e. 1 and 2; 2 and 3; 1 and 3; 1, 2, and 3), with the most pertinent findings presented in each question separately. To this end, we included a total of 42 reviews for Question 1, of which 23 were included only for Question 1 and 19 were also included for Question 2 and/or 3 (see Appendix C).

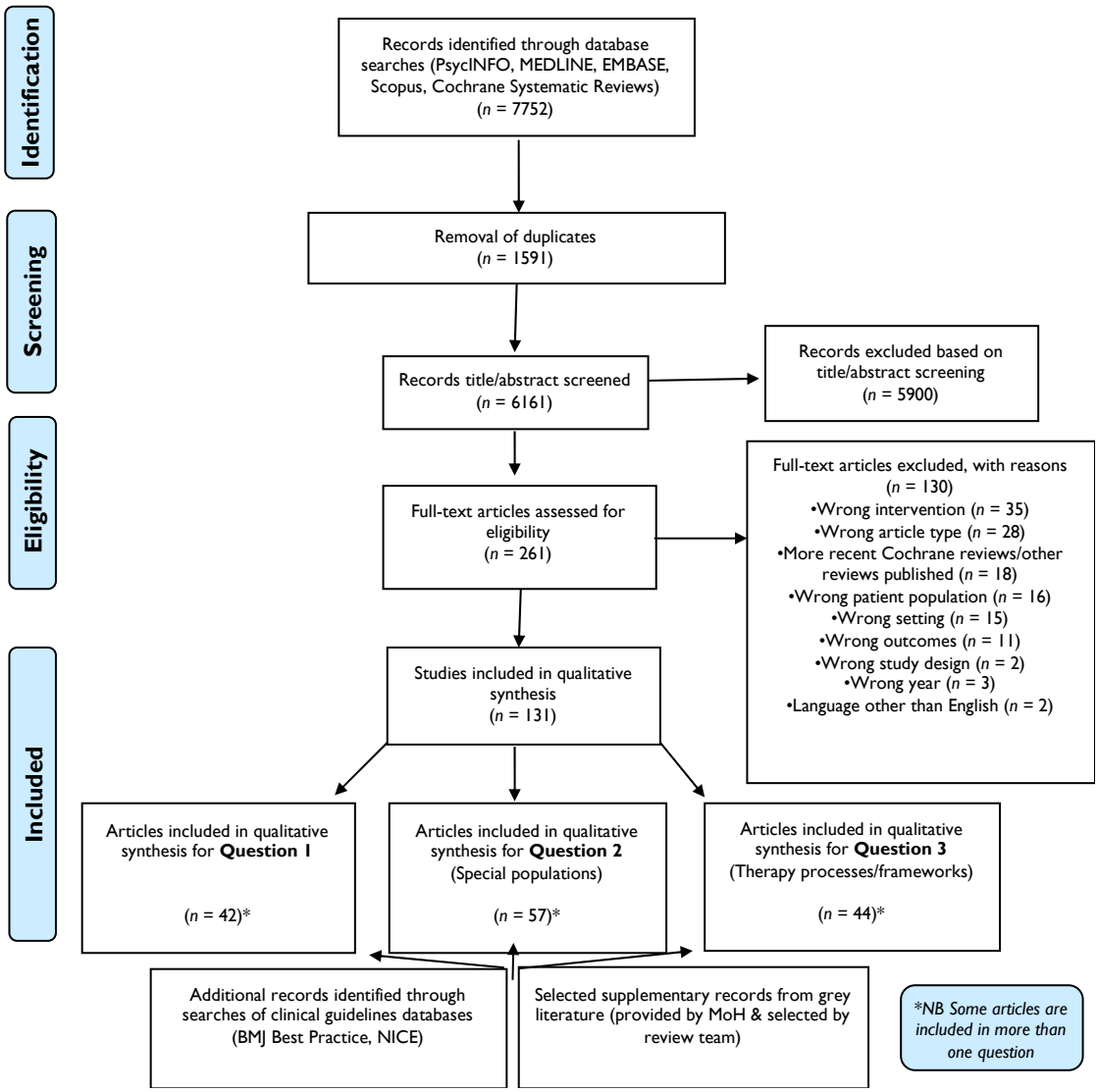

Figure 2—PRISMA flow diagram with included articles.

Question 1: What have been shown to be the most effective psychosocial interventions for treating people with AOD issues?

Question 1 aimed to examine which psychosocial interventions have been found to be most effective for treating people with AOD use issues.

Review characteristics

Appendix D summarises the characteristics of the reviews used to address Question 1, including study type, years of publication covered by the review, number of studies and number of participants, research aim/s, type/s of AOD-using population, psychosocial intervention, and setting.

These included 14 Cochrane systematic reviews (published 2011–2019), 23 systematic reviews with or without meta-analyses (published 2008–2019), and 7 narrative/other literature reviews (published 2010–2019). Where reported, reviews included between 3 and 108 studies, and involved between 75 and >100,000 study participants. Included reviews covered a range of AOD-using populations, including people being treated for the problematic use of alcohol, tobacco, cannabis, psychostimulants (i.e. cocaine and/or amphetamines), opiates and prescription medicines (opioids or benzodiazepines).

Reviews presented evidence on a range of psychosocial interventions, including behavioural, motivational, psychodynamic, counselling, mindfulness-based and self-help (including 12-step) approaches with or without adjunctive pharmacotherapy. Twenty-six reviews presented evidence specific to one type of psychosocial intervention, while the remaining 18 reviews presented evidence on multiple types of psychosocial interventions. Studies in the reviews were mainly conducted in primary care and/or outpatient settings (including general practices, emergency departments, or community-based clinics).

Thirteen reviews reported separate outcomes for a special population of interest, most commonly adolescents or young adults; 12 reviews reported separate outcomes for a type of therapeutic process and/or care delivery model, most commonly comparing digital and face-to-face modalities. These reviews are therefore also discussed in the context of Questions 2 and 3, respectively (see Appendices E and F).

Evidence-base on the effectiveness of psychosocial interventions for AOD use issues

Nine types of psychosocial intervention were included in more than one review and an additional four intervention approaches were included in a single review only and are thus marked as having an emerging evidence base in the AOD-using population (Appendix D). Psychosocial interventions are discussed in order of how many reviews they appear in, to convey which interventions are garnering the most attention in the recent empirical literature.

Note that for this purpose, n is used to indicate the number of reviews rather than the number of individual studies included in the reviews. The term ‘effectiveness’ and its derivatives are used broadly to refer to statistically significant positive findings on outcomes relevant to the treatment of AOD issues (see included outcomes in Appendix B). See Appendix D for complete data extraction.

Brief interventions (BI) (n=15). Brief interventions (BI) were included in 15 reviews of studies of mixed design and published between 1987–2017. Reviews were mostly of randomised controlled trials (RCTs) conducted almost exclusively in high-income countries, including the US, UK, Canada and Australia. Most reviews examined BIs as a standalone intervention, while two reviews examined BIs in combination with pharmacotherapy.[13,14] Another two reviews focused on BIs with a specific mode of delivery, namely nurse-conducted BIs (NCBIs)[15], and electronically delivered screening and BIs (eSBI).[16] In 11 reviews, alcohol was the target substance of the intervention; cannabis and tobacco use were each examined in two reviews.

Most studies included in the reviews were set in primary care or emergency departments, and in general, BIs were delivered opportunistically to people without a diagnosed AOD-use disorder and were not seeking treatment for the target substance. The BIs described by reviews were highly heterogenous in terms of their content and delivery. The described BIs were single or multi-session interventions comprised of advice and/or counselling-focused content, were of varying duration (5–90 minutes) and were delivered by different health professionals or other 'interventionalists' with or without supplementary written health information materials. Control/comparison conditions were similarly heterogenous and included usual care/treatment-as-usual (TAU), screening or assessment only, and/or the provision of written general/AOD-specific health information or verbal feedback.

Across reviews, the most common primary outcomes of effectiveness were reductions in the quantity and/or frequency of alcohol consumption (or other target substance use). Twelve of the 15 reviews indicated that BIs were superior to the control/comparison condition in reducing problematic AOD use, namely: alcohol (n=9 reviews of RCT and other study designs) and cannabis (n=1, review of RCT and other study designs) and smoking cessation (n=1, review of RCTs). In one review comprising RCTs and quasi-experimental studies, an alcohol-targeted BI was found to be effective at reducing alcohol consumption but not rates of smoking cessation or frequency of smoking.[17] Evidence was mixed with regards to the longevity of BI-related improvements in AOD use. Some reviews suggested the positive effects of BIs diminish with time (i.e. at longer follow-ups)[16,18,19], while others indicate that reductions in AOD-use are maintained over time, up to 12 months follow-up.[15,20,21] Review evidence also indicated that BIs may be more effective when they are delivered in the primary care/general practice setting compared to emergency departments[21–23], focus on providing advice, rather than counselling[21], and are provided to people approached within healthcare settings rather than referred by community volunteers (e.g. via Quitline).[13] Furthermore, evidence from one review showed that BIs appear equally effective at improving AOD-use outcomes, regardless of whether they are delivered by a primary-care physician (i.e. GP) or a non-physician (i.e. nurse-conducted BI).[15]

There is limited evidence to support the effectiveness of BIs at reducing other harms related to AOD use. Across reviews, most studies demonstrated that BIs were not superior to controls/comparisons (including usual care and minimal interventions) in reducing emergency department and hospital re-admissions, alcohol-related injuries and self-harm, and other alcohol-related harms. In terms of BI-related improvements in general health status and/or wellbeing, there is limited evidence based on the published literature since 2008 with most reviews not reporting on these outcome domains. In one review, four of the six included RCTs found that BIs were no more effective than controls/comparisons at improving health-related quality of life in primary-care patients.[21]

Cognitive Behavioural Therapy (CBT) (n=11). Eleven reviews of RCTs evaluated the effectiveness of CBT. Reviewed RCTs were conducted mostly in the US and published between 1978–2018.The evidence-base for CBT in treating AOD use was mostly derived from a subgroup of relevant RCTs within each review, and there was considerable overlap in included RCTs with many appearing

across multiple reviews. Five reviews examined CBT as a monotherapy only, whereas the remaining seven reviews examined the effectiveness of combining CBT with another behavioural-based psychosocial intervention (e.g. contingency management, CM) or with pharmacotherapy. Reviews included CBT in individual and group formats, delivered over multiple sessions via face-to-face, telephone, mail or digitally. CBT was used to treat a range of AOD uses including cannabis (n=4), mixed AOD (n=3), alcohol, tobacco, and non-prescribed medication use (benzodiazepines, BZDs; and opioids) (all n=1 each). Reviews mostly included studies conducted in specialist AOD inpatient and outpatient settings, with fewer studies conducted in primary-care and community-based settings. Reviews included studies with a heterogeneous mix of controls/comparisons from no intervention/waitlist control to usual care/TAU (including pharmacotherapy alone), and another active intervention (e.g. motivational interviewing, MI; CM).

All reviews evaluated outcomes related to harm reduction and minimisation, specifically the reduced use of (both in terms of frequency and quantity of use) and/or abstinence from (discontinuation/cessation) the target substance. Other effectiveness outcomes included improvements in treatment retention/drop-out (n=5) and severity of AOD dependence (n=3). By and large, CBT was found to be superior to both minimal/no intervention/usual care and active interventions in the reduction of AOD use, both as a monotherapy and as an adjunctive therapy. Where reported, CBT had more consistently positive effects when compared with no/minimal intervention or TAU, versus another specific therapy/active treatment, and at shorter (up to 6 months) than at longer follow-up (8+ months).[24,25] CBT-related reductions in AOD use were observed in mixed AOD-use populations[24–26] and in specific substance-using populations, including alcohol[27] and cannabis.[28–31] CBT produced less consistently positive results in the treatment of other substance use; here, CBT was often no superior to control/comparison in improving rates of BZD discontinuation[32], opioid abstinence[33], and smoking cessation.[34]

A small number of reviews of CBT (3/11) also examined its effectiveness with regards to improvements in general health and wellbeing. Two of the three reviews reporting on general health outcomes found positive effects for CBT. Specifically, combined CBT and other behavioural therapy led to greater improvements in psychosocial functioning for people with cannabis use issues compared to controls/comparisons (including TAU and waitlist control).[30] There was also some evidence that higher-intensity CBT led to greater improvements in severity of cannabis use disorder and cannabis-related problems compared to lower intensity CBT.[31] However, in another review of cannabis-using samples, CBT was found not to be superior to no intervention/TAU in improving the severity of other substance use dependence or depression.[24]

Motivational Interviewing (MI) and Motivational Enhancement Therapy (MET) (n=9)*.* Nine reviews of RCTs evaluated the evidence for motivational approaches to treating AOD use issues. These reviews included studies published between 1996–2017, conducted in mostly high-income countries similar to Australia (e.g. North American, the UK, Central and Northern Europe). All but one review (which also included a quasi-randomised controlled trial and a pilot/feasibility RCT) included only full RCTs. Included motivational approaches were MI and MET, including brief and extended formats (mostly 1–5 sessions of up to 60 minutes total duration), which were evaluated as a single standalone intervention (n=4) or combined with another psychosocial intervention and/or pharmacotherapy (n=5). The MI/MET-based interventions were used to treat general population/community-based smokers of tobacco (n=3), as well as mixed AOD-using populations (n=2), and people with problematic use of cannabis (n=2), alcohol (n=1) and BZDs (n=1) in both specialist and non-specialist AOD inpatient and outpatient settings.

Five of the nine reviews found that motivational approaches were superior to controls/comparisons (e.g. no or minimal intervention) at reducing AOD use or higher abstinence/cessation rates. MI/MET-related improvements in AOD use were observed in mixed AOD[24,35], tobacco[36], and cannabis-using populations.[28,29] Findings tended to be mixed with regards to the longevity of MI/MET improvements. The superiority of MI/MET improvements over controls/comparators were more likely to be sustained over time when compared to no/minimal intervention (versus TAU or another active intervention), and/or when outcomes were reported at post-treatment/short-term follow-up (1 week) versus longer follow-up (>3 months)[27,35], and/or in treating alcohol and cannabis rather than tobacco or other drugs.[32,34,37] In terms of general health outcomes, one review found brief (B)MI to be superior to controls/comparisons (waitlist assessment and another intervention) at improving cannabis dependence severity in both the shorter (post-treatment) and longer-term (6- and 12-month) follow-ups.[29] By contrast, another review reported study findings indicating no difference between MI and no intervention on dependence severity.[24] Only one of the included reviews looked at the effectiveness of motivational approaches on wellbeing outcomes, namely mental health and quality of life, and determined there was insufficient data to draw any conclusions.

Contingency Management (CM) (n = 6). CM was included in six reviews of RCTs, which were conducted in the US and Central/Western Europe and published between 1993–2016. Of note, a large number of the RCTs contributing to the current evidence base were included in multiple different reviews. Given that all six reviews evaluated the effectiveness of several different psychosocial interventions, a subgroup of CM-relevant studies from each review are discussed here. Most of the reviewed studies were of adjunctive CM (with or without another psychosocial intervention) and conducted in the non-specialist outpatient or primary-care/community-based setting, and included populations of people with problematic psychostimulant use. Where reported, CM was carried out in-person and compared to TAU, no/inactive intervention or another psychosocial or pharmacological intervention.

All reviews reported positive findings on at least one outcome related to harm minimisation (e.g. quantity and frequency of AOD use, AOD-related problems, and abstinence). Both adherence-focused and abstinence-focused CM were found to be effective adjuncts to CBT and MET in improving cannabis use outcomes both post-treatment at 12+ month follow-ups.[28,29,31] Although the evidence remains mixed, some reviews found CM monotherapy to be as effective as another psychosocial intervention (including CBT at 12–15 month follow-ups)[26,28,30,31], and more effective than no intervention/TAU in reducing and abstaining from AOD use.[24,26]

Three of the six reviews examined the effectiveness of CM at improving general health and wellbeing outcomes, namely severity of cannabis use disorder/dependence symptoms and co-occurring depression symptoms. When CM was added to other psychosocial interventions (e.g. CBT, MET), reviews reported greater improvements in the severity of cannabis-use disorder across a 12-month period[31]; however, when CM was used as a standalone intervention, it produced equivalent dependence severity outcomes to other psychosocial interventions and no interventions (assessment period unknown).[24,29]

Mindfulness-based Interventions (MBIs), including Acceptance and Commitment Therapy (ACT) (n=6). Six recently published reviews of studies with mixed designs (published 1986–2017) focused exclusively on the effectiveness of MBIs for AOD-using populations. Studies were mostly conducted in the US and included full RCTs, pilot/feasibility RCTs, and quasi-experimental designs. The reviewed MBIs were heterogeneous and included ACT, Mindfulness-based Stress Reduction, Mindfulness-Based Relapse Prevention, and Mindfulness training. MBIs were delivered in person by a trained therapist or instructor, or alternatively they involved minimal/no face-to-face contact and/or digital delivery (via web-based, app-based or audio applications). Reviews included studies of multi-session individual and/or group MBIs (e.g. minimum two sessions of 45 minutes each), which were conducted in both specialist inpatient/residential and general population/community-based settings. Comparison/controls were usually TAU/usual care or another active intervention with or without pharmacotherapy.

Findings were mixed with regards to the effectiveness of MBIs at reducing AOD use-related harms: four of the six reviews showed that MBIs were superior to controls/comparison (including TAU and active interventions) on reducing AOD use and/or increasing abstinence/cessation at post-treatment and at follow-up (~6 months).[38–41] The remaining two reviews either reported similar effects for MBIs and controls/comparisons, or provided insufficient data for analysis. Three of the six reviews reported on the effects of MBIs on wellbeing and general health outcomes, and all three reported some positive findings. More specifically, MBIs were found to be superior to control/comparisons (including another active interventions) on perceived stress and distress, emotion regulation and mindfulness, health-related quality of life, pain severity, and functioning interference.[38,41,42] Mixed evidence emerged for the effectiveness of MBIs at improving mental health-related symptomatology. One review of RCTs and non-RCTs reported greater improvements for MBI compared with other active interventions on depression, anxiety, and depressive symptoms[38], while another review of RCTs reported only equivalent improvements in depression and anxiety for both MBIs and controls/comparisons.[42] The timeframe for improvements was not clear in the reviews**.**

Other counselling (n=6)*.* Six reviews included RCTs of other counselling approaches to treat people with AOD-use issues. Reviewed studies were all US-based RCTs published between 1983–2016. In four of the six reviews, counselling was used in combination with pharmacotherapy to treat problematic use of opioids or BZDs (n=3), tobacco (n=2), or cannabis (n=1). Counselling was delivered by a trained counsellor/health professional within multiple individual and/or group sessions (of usually 15–60 minutes up to 24 weeks), and mostly took place in specialist AOD inpatient settings. Some counselling interventions delivered outside the inpatient setting were supplemented with other audio-visual and/or written information materials. Comparison/control groups were varied and included standard pharmacotherapy, another intervention, or minimal/brief contact controls.

The most commonly evaluated effectiveness outcomes related to discontinuation and abstinence/cessation. When compared with another intervention and/or minimal contact control, counselling (both with and without adjunctive pharmacotherapy) produced superior outcomes on smoking cessation[34,43], and cannabis-related problems up to 12 months follow-up.[31] Moreover, counselling appeared to be equally effective in more- or less-intensive formats (with respect to smoking cessation)[43], and when it was delivered digitally as compared with in-clinic face-to-face settings (with respect to BZD discontinuation).[32] Although different types of counselling were equally effective on smoking cessation rates, effects appear smaller for adjunctive counselling (with pharmacotherapy) than for counselling as a standalone therapy.[43] Adjunctive counselling (with pharmacotherapy) appears no more effective than pharmacotherapy alone at improving opioid

abstinence, but may enhance opioid treatment retention.[33,44] None of the included reviews for counselling reported on evidence related to general health and wellbeing-related outcomes.

Self-help programs (n=5). Five reviews including studies published between 1994–2016 examined the effectiveness of self-help programmes, including 12-step facilitation, such as AA, and SMART Recovery. Reviews included mostly US-based RCTs (n=4), however, other study designs were also included (e.g. pre-/post-, cross-sectional). All reviewed studies were in the outpatient and/or community-based setting and all except one review included mixed AOD-use populations. Interventions were delivered either individually or in a group format, with face-to-face and/or online components. In controlled studies, control/comparison groups included no intervention or TAU, another psychosocial intervention, or another self-help program.

Reductions in AOD use, abstinence, and treatment retention/drop-out were the most commonly evaluated effectiveness outcomes. Compared to TAU, self-help programs led to greater improvements in rates of abstinence and treatment retention.[26] Yet, when compared to CBT-based interventions, self-help programs showed similar or smaller improvements on these outcomes.[24,27] Across the reviewed studies there are mixed findings regarding the superiority of one self-help program over another at reducing AOD use and improving abstinence rates. It was also unclear whether AA-related improvements are greater for women than for men.[45] Based on mixed evidence from a variety of study designs (e.g. including cross-sectional and pre-/post-studies), it is unclear whether SMART Recovery Groups are equally or more effective than AA at improving addiction severity and functioning outcomes.[45,46]

Of note, the research on self-help programs was almost exclusively conducted in the US, which may limit the generalisability and applicability of findings to the Australian AOD treatment context. This is because in the US, as opposed to Australia, there tends to be wide-spread endorsement of disease- or pathology-based models of addiction as opposed to psychosocial approaches.[47] Endorsement of the disease models of addiction has been shown to be associated with treatment providers' own religious beliefs and attendance at AA[47], as well as perceived reductions in stigma and increases in helplessness among clients. With less endorsement of the underlying philosophy of 12-step programs, such as AA, this self-help approach may not be as effective on rates of abstinence and treatment retention in an Australian sample.

Psychodynamic and psycho-analytic approaches (n=3)*.* Three reviews of psychodynamic and psychoanalytic approaches were identified. All reviews included RCTs or controlled clinical trials published in the US between 1983–2004. All interventions were delivered in-person over multiple sessions in mostly individual, or group-based formats. Interventions were conducted in outpatient settings (other details not provided) and treated people for the problematic use of opioids and psychostimulants. Where reported, interventions comprised once or twice-weekly sessions of 50–60 minutes over 3 months.[24.26] Control/comparison groups included TAU or another psychosocial intervention (n=2 reviews) or standard opioid pharmacotherapy maintenance treatment (n=1). All three reviews examined the effectiveness of psychodynamic/psychoanalytic therapies on abstinence and treatment retention at post-treatment and at follow-up (usually 3 months). On balance, none of these treatment approaches were found to be more effective than other psychosocial treatments or TAU at improving abstinence and treatment retention. Further, the addition of psychoanalytic therapy to pharmacotherapy was no more effective than pharmacotherapy alone at improving opioid abstinence and treatment retention.[33]

Relapse Prevention (RP) (n=2). Two reviews examined effectiveness of RP interventions for treating cannabis-use issues compared to no/minimal intervention (e.g. waitlist control, TAU) or another psychosocial intervention (structured support). Both reviews included RCTs published between 1988–2001. Reviewed studies included face-to-face/in person RP delivered in primary-care/community-based or university settings. When combined with CBT and/or MET, RP produced better outcomes on cannabis use and related problems compared to TAU or waitlist control at 3 months follow-up.[30] When used as a standalone therapy, however, RP was superior to waitlist control on cannabis use and related problems at 4 months follow-up[30], but was no better than another intervention (MET or Structured Support) on cannabis or other substance use, abstinence rates, or related problems in either shorter-term (1–3 months) or longer-term follow-ups (12 months).[30,31] Neither of these reviews reported on general health or wellbeing-related outcomes.

Other psychosocial interventions with an emerging evidence base in the AOD population (all n=1). Four other psychosocial interventions were each included in one review each. These interventions were Dialectal Behavioural Therapy (DBT), Behavioural Activation (BA), Behavioural Couples Therapy (BCT), and Family Therapy (FT). Where reported, reviewed studies were conducted in North America, the UK, and Central/Western Europe. The populations receiving treatment were mostly mixed AOD-use populations across a variety of community-based and specialist inpatient or outpatient settings.

For DBT, a review of three RCTs suggested that DBT of 50 weeks duration on average is similarly effective to 12-step programs, and more effective than TAU in promoting abstinence, better mental health, and reduced severity of AOD use at short (up to 6 months) and long term follow-up (up to 16 months).[48] For BA, most reviewed studies (RCTs and pre-/post-design) show equivalent improvements in AOD use, abstinence and related depressive symptoms compared to other psychosocial interventions (including CBT, counselling, CM).[49] However, BA may outperform control/comparisons over time, with some studies showing superior abstinence and depression outcomes at follow-ups of 3–12 months.[49] For both BCT and FT, there is some RCT-based evidence to suggest that these interventions (as standalone and adjunctive treatments of mostly 10–20, ~60 min sessions) are effective at improving AOD-use outcomes compared to TAU and another intervention at post-treatment and/or follow-ups of up to 12 months.[33,50] Further, BCT also appears effective at improving other interpersonal and wellbeing outcomes at post-treatment and up to 12-month follow-up, such as relationship satisfaction and other relationship outcomes.[50]

Quality of evidence

In considering the quality of the evidence to support the effectiveness of AOD psychosocial interventions, it is important to consider the levels of evidence together with the grading of the evidence. The level and grades of evidence for psychodynamic and psychoanalytic-based interventions and FT could not be determined due to all included reviews reporting null effects.

There was a range of evidence levels for the reviewed psychosocial interventions (see Appendix D). Based on an assessment of the highest level of available evidence for each psychosocial intervention (within reviews published 2008–2019), BI, BCT, CBT, and CM have Level I Evidence to support their effectiveness for reducing harms related to AOD use. Brief MI/MET and DBT have Level I/II Evidence (range based on variation in the types of studies included in pooled findings), BA, RP, and 12-step facilitation have Level II Evidence, while MIs and other Counselling approaches have Level II/III

Evidence (again range based on variation in types of studies included in pooled findings). Of note, these levels of evidence in part reflect the fact that some interventions (e.g. CBT) are more amenable to evaluation via RCT, and thus are more likely to have accrued higher levels of evidence. Also, the current levels of evidence are based on studies included in published reviews, and do not consider primary research studies that were excluded and/or have been published more recently. These levels of evidence are also subject to change as newer interventions with an emerging evidence base (e.g. MBIs) may accrue higher levels of evidence if they are shown to be effective in future well-controlled RCTs.

Similarly, there was considerable variability in the grading of the evidence for the different psychosocial interventions and across the four components of evidence base, consistency, clinical impact, and generalisability (see Appendix D). In instances where a review included studies that varied on a component, this is reflected as a range. For the evidence base component, CBT, MBIs, and BCTs were graded as excellent or good (A, B); other counselling and self-help/12-step facilitation were good to satisfactory (B–C); BA, BI, CM, DBT and RP were satisfactory (C); and MI/MET was satisfactory to poor (C–D). For consistency, all interventions were graded as good to satisfactory (B–C) except for DBT and RP, which received a grade of satisfactory due to unexplained inconsistencies. For clinical impact, BI, CBT, CM, and other counselling received a grade of good (B), while the remaining interventions were graded as satisfactory or poor (C–D). For generalisability, BI, CBT, DBT, and other counselling were graded as either excellent to good or good (A–B, B); other interventions were graded as good to satisfactory (B–C; CM, MI/MET), or satisfactory to poor (C–D; BA, BCT, RP, 12-step facilitation).

Variations in the strength of intervention-related effects and other inconsistencies arose from the substance types being treated, AOD-use severity (i.e. some studies excluded people with AOD dependence and/or disorder, whereas others did not), study setting (e.g. specialist inpatient versus primary care/community-based) and recruitment methods (community volunteers versus current service users). There was also substantial heterogeneity in the content, format and delivery of psychosocial interventions, whether they were used as a standalone or adjunctive treatment, and the intensity of comparison/control conditions (e.g. no intervention/waitlist control, versus minimal intervention, versus another active treatment).

On balance, when considering both the evidence levels and grades for the reviewed psychosocial interventions, we can tentatively conclude that CBT and BI are the most effective psychosocial interventions for the treatment of AOD use issues.

Question 2: What psychosocial interventions are most effective for treating people and improving outcomes for special population groups?

The aim of Question 2 was to assess the most effective psychosocial interventions for treating AOD use among individuals from special population groups. This review considered the following special population groups:

- Older people
- Indigenous populations
- People who identify as lesbian, gay, bisexual, transgender, queer or intersexed (LGBTQI)

- Culturally and linguistically diverse (CALD) populations
- People living in rural and remote areas
- People with co-occurring substance use and mental health issues
- People in contact with the criminal justice system
- Young people aged 12–24 years
- Pregnant and postpartum women

Review characteristics

Fifty-two systematic reviews published between 2008–2019 were included for Question 2 as they reported on a specific population group; a further five systematic reviews reported on a special population group as a subpopulation. Special population groups targeted in the included reviews were: older people, Indigenous populations, individuals with co-occurring AOD use and mental health issues, people within the criminal justice system, adolescents/young people and pregnant women. Reviews on the LGBTIQ+ community, CALD populations and people from rural and remote areas were not identified.

Reviews included between 4 and 102 studies recruiting between 715 and ~28,000 study participants. Included reviews covered a range of alcohol and other drugs (AOD) using populations, including people being treated for problematic use of alcohol, amphetamine, cannabis, cocaine, prescription medication and/or tobacco. Most of the included systematic reviews were conducted in the US (n=21 reviews), the UK (n=12) and Australia (n=10). The remaining reviews included studies from Canada (n=2), Germany (n=2), Denmark (n=2), Belgium (n=1), Brazil (n=1), China (n=1), Ireland (n=1), Italy (n=1), South Africa (n=1), Spain (n=1), Switzerland (n=1), the Netherlands (n=1).

Reviews covered a range of psychosocial interventions including brief intervention (BI), counselling, motivational interview (MI), motivational enhancement treatment (MET), health education, cognitive behavioural therapy (CBT), contingency management (CM), interpersonal psychotherapy (IPT), mindfulness-based, self-help, psychoeducational and family-based therapy (FBT). The interventions were commonly delivered in person, through educational material, and in some cases, they were technology-assisted. The settings for the interventions varied, and included community-based settings, hospitals, outpatient clinics, and forensic settings.

Special population groups

Older people (n=2). Two systematic reviews assessed the effectiveness of psychosocial interventions on AOD use among older adults over the age of 50.[51,52] Both reviews almost exclusively examined evidence from randomised controlled trials (RCTs) and were conducted in high-income countries such as the UK, US, Australia, Canada and Denmark. The reviews examined interventions such as BI, counselling, MI, health education and CBT. Control conditions included treatment as usual, waitlist participants, minimal intervention or no intervention. Neither of the reviews focused on a specific delivery mode. All studies within the reviews were set in healthcare settings, including primary care and tertiary care. One review focused on alcohol use only[52] while the second review targeted various substances including prescription medications.[51] In both reviews, the outcomes of

effectiveness were reduction in substance use for alcohol, smoking, prescription medications and illicit drugs.

Both reviews found that intensive interventions involving personalised feedback, education and telephone follow-up were more effective than treatment as usual (TAU) in reducing hazardous drinking among older people. There is mixed evidence on the effectiveness of BI compared to control conditions. While Bhatia et al found that BI were no different to control conditions in reducing hazardous drinking[51], Kelly et al reported that an intensive and comprehensive version of BI, which encompassed personalised feedback, education and telephone follow-up, did show effects.[52]

When it came to smoking cessation, Bhatia et al found that BI combined with telephone calls and Nicotine Replacement therapy is more effective compared to control conditions (TAU, Extended Nicotine Replacement Therapy [E-NRT]) in reducing daily smoking, 30+ days smoking cessation and complete abstinence. Similarly, they also found evidence that extended CBT treatments are more effective than control (E-NRT) in leading to sustained smoking cessation. For older people with prescription medication misuse, Bhatia et al. reported counselling was more effective than control conditions in reducing regular use of prescription medications.[51]

Indigenous populations (n=1). One systematic review examined the evidence of psychosocial interventions on smoking among Indigenous people.[53] The review assessed both RCTs and quasi-RCTs, and included studies conducted in Australia, New Zealand and the US. The review examined combination therapies comprising of pharmacotherapies with counselling, and counselling delivered by clinical doctors or provided via text messages. Control conditions included usual care, no intervention, placebo, reduced intervention (e.g. brief advice) and co-intervention. The studies examined interventions delivered in person by healthcare professionals or were technologically assisted and were set either in a health centre or in the community. Smoking cessation was the outcome of effectiveness reported in the review.

Carson et al included four studies in their final review. Three of those studies produced a statistically non-significant effect favouring the interventions while one study showed statistically significant results. However, this fourth study had substantial limitations and it was excluded from meta-analysis. The results indicated that neither combination therapies nor counselling is more effective than control conditions to increase smoking cessation.

People with co-occurring substance use and mental health issues (n=11). Eleven systematic reviews assessed the effect of psychosocial interventions in people with co-occurring substance use and mental health issues.[54–64] The reviews included RCTs, quasi-RCTs, non-randomised studies as well as secondary studies, and studies conducted in high-income countries such as Australia Canada, Germany, the Netherlands, the UK and the US. Interventions examined were CBT, motivational approaches (BI, MI, MET), counselling, IPT, CM, ACT, DBT, dynamic deconstructive therapy (DDT), dual-focused schema therapy (DFST), self-help, and integrated psychotherapeutic treatment (IT). The control conditions employed in the reviews were usual care, family support group, no intervention, minimal or delayed treatment, individual drug counselling, 12-step facilitation, community care, alternative psychological treatment, health education, and telephone-based support. In two reviews that discussed delivery mode, the interventions were delivered by healthcare professionals such as physicians and nurses. The settings varied across the studies, and included hospitals, research centres, outpatient clinics, dental clinics and prison.

Mental health issues that were covered in the reviews were depression, anxiety, bipolar disorder (BPD), schizophrenia, psychological trauma and PTSD. Five of the included reviews focused on a single substance, most commonly tobacco, while the remaining six included various substances. Outcomes for effectiveness used were reductions in substance use (measured by frequency and quantity of use, treatment attendance and retention) and abstinence (alcohol and tobacco).

In two reviews targeting smokers with depression, CBT and group/individual counselling (combined with self-help, hypnosis, exercise) were found to be superior to control conditions in increasing smoking cessation.[54,64] However, in a third review focused on the same special population, a combination of mood management, CBT, counselling, MI, MET, self-help, etc, found no difference in incidences of smoking cessation among intervention and control groups.[63]

Two systematic reviews focused on individuals with depression and alcohol-use disorder.[52,62] In both cases, a combination of CBT and MI was found to be more effective than control in reducing alcohol consumption in this population group. Additionally, outcomes are better for both alcohol use and mental health when the BI sessions are longer.[56] Further evidence supporting MI and CBT is seen in Cleary et al.'s study where MI, CM and a combination of MI and CBT were found to be more effective than control conditions (standard care, family support, group therapy, self-help booklet, etc.) in reducing substance use. Similarly, Hunt et al.'s study found MI to be more effective than standard care in increasing alcohol abstinence among individuals with severe mental illness such as BPD, schizophrenia, major depression and other psychosis. Other combined (CBT+MI) and standalone interventions (CM, MI) examined in Hunt et al.'s review did not demonstrate effectiveness in reducing illicit substance use, relative to standard care.

One review targeted individuals with co-occurring substance-use disorder and psychological trauma and/or PTSD symptoms.[65] This review assessed the effectiveness of integrated psychotherapeutic treatment (IT) for trauma and substance use, finding that IT is more effective than standard care in reducing substance use. For increasing smoking cessation, IT with treatment as usual is superior to treatment as usual. When it came to trauma-specific treatment, IT was no better than only substance-use treatment in reducing substance-use disorder. Hesse et al examined the effect of IT on co-occurring substance use and depression or anxiety; this intervention solely focused on reducing substance use disorder. The authors found that, relative to the control conditions, IT was more effective in increasing the percentage of days abstinent in those with substance-use disorder and depression, however, it did not affect treatment retention and psychiatric symptoms. The effect of IT was no different to control for anxiety and substance-use disorder (SUD).

Another systematic review that focused on a single mental health issue was conducted by Lee et al (2015). The focus was on individuals with BPD and substance-use disorder, and the interventions examined were DBT, DDP and DFST. Along with symptoms of BPD, suicidal behaviour and self-harm, DBT was found to be more effective than TAU in reducing substance use. Similarly, DDP was more effective that TAU in reducing BPD symptoms and alcohol-use disorders. DFST was associated with reduction in substance use when compared with TAU.

When they examined the effect of psychosocial interventions (with or without pharmacotherapy) on co-occurring depression and substance use (except nicotine), Hides et al. found that integrated CBT was superior to 12-step facilitation in reducing substance use. The interventions, however, did not differ for treatment attendance or retention. Interpersonal Treatment for Depression (IPT-D) was no more effective than BI or psychoeducation in increasing abstinent days or risk of relapse. Similarly, CBT was no better than other psychological treatments (e.g. relaxation) on substance use outcomes,

such as substance use or treatment retention. When Family Focused Therapy (FFT) and Coping With Depression (CWD) were delivered together to treat SUD, the combined intervention was more effective in increasing treatment attendance when compared with just FFT**.**

People in contact with the criminal justice system (n=6). Six systematic reviews examined the effect of psychosocial interventions in people within the criminal justice system.[41,66–70] The reviews included RCTs, quasi-RCTs and non-randomised studies, and studies were conducted in high-income countries such as the UK and US. Interventions included were CBT, motivational approaches (BI, MI), counselling, IPT, self-help, FBT and 12-step facilitation. The control conditions were TAU, wait list, minimal/alternative intervention, relaxation treatment, information only and assessment only. Interventions were delivered by clinicians, psychologists, social workers and trained facilitators, and were either group or individual sessions. Not surprisingly, the settings were prison, juvenile correction facilities, magistrates court, probation and police custody.

Two reviews focused only on women offenders[66,70] while the remaining included males and females.[67–69] Except one review that focused on alcohol[68], all the other reviews focused on various substances. Substance-use outcomes reported in the reviews were drug use and abstinence for various drugs.

In the two reviews that targeted female offenders, psychosocial interventions were less effective than comparators in reducing substance use. This included interventions such as self-help, 12-step facilitation, ITP, CBT, MI and MST.

In two reviews, MI was generally more effective than control conditions in reducing alcohol and cannabis use.[68,69] Additionally, Newbury-Birch et al also found that group therapy was more effective than TAU in reducing alcohol use. Similarly, in their 2019 review involving male and female offenders, Perry et al found that MI was more effective than control conditions in reducing cannabis use. Mindfulness was another psychosocial intervention associated with better drug-use outcomes when compared TAU.[41]

Young people (n=31). Thirty-one systematic reviews assessed the effect of psychosocial interventions on young people with substance-use disorders.[71–101] The reviews included young people between the ages of 8 and 24. They mostly included RCTs, quasi-RCTs and non-randomised studies, and studies were generally conducted in high-income countries similar to Australia (Canada, Denmark, the Netherlands, the UK and the US). Interventions examined were CBT, motivational approaches (BI, MI, MET), counselling, family-based interventions, CM, assertive continuing care (ACC) and mindfulness. These interventions were compared with conditions such as usual care, wait list, no or minimal intervention, delayed or alternative intervention, placebo and health education. The delivery mode varied among the included reviews and covered in-person delivery by professionals and technologically assisted delivery (computer, telephone, internet). Similarly, the settings included schools, healthcare centres (primary and tertiary), juvenile justice centres, home, research centres and outpatient clinics. It is worth noting that all studies evaluating BI were set in hospitals, specifically emergency departments.

Eighteen of the included reviews focused on multiple substances with either alcohol or tobacco being included in almost all. The remaining 13 studies focused on single substances, alcohol being the most common. Outcomes for effectiveness used were reductions in substance use (measured by frequency and quantity of use, treatment attendance and retention) and abstinence.

In six systematic reviews, family-based intervention was evaluated either as a standalone or combined intervention. Generally, family-based interventions were associated with positive impact on adolescent substance use. Waldron and Turner found that family-based therapy (FBT), such as multidimensional family therapy (MDFT), behavioural strategic family therapy (BSFT), FFT, and integrated behavioural and family therapy (IBFT), are more effective than group/individual CBT in reducing various substance use among adolescents. In another review, MDFT was found to be more effective than family education (FE) and group treatment/therapy (GT) in reducing alcohol use, and this effect was seen at 6 and 12 months. However, when compared with CBT, MDFT was found effective in reducing alcohol use only at three months post-intervention. This effect was reflected in Hartnett et al and Hogue et al. studies where FBT, such as FFT, was more effective than alternative interventions in reducing substance use. Similarly, when examined among juvenile offenders, multisystemic therapy (MST), multidimensional treatment foster care (MTFC) and teaching families (TF) were more effective than control conditions in reducing alcohol and cannabis use. These findings are further supported by Filges et al.'s review that showed MDFT was found to be superior to control conditions in improving problem severity and decreasing drug use frequency among adolescents. Bender et al.'s study focused on cannabis use, and the authors found that FBT were not superior to all control conditions employed. They found that while TF and MDFT were better than control conditions in reducing cannabis use, CBT was superior to FFT at four months.[82] Additionally, FBT's effect was similar to CBT at seven months follow-up. In a review that included multiple psychosocial interventions, including CBT, MI, BI, MDFT, FFT, etc., MDFT was the only one found to be an effective intervention in reducing substance use.[77]

Five systematic reviews reported on the effectiveness of motivational approaches relative to control conditions. Like with FBT, motivational approaches were generally found to be positively associated with adolescent substance-use outcomes. In three systematic review, MI was found to be more effective than control conditions in reducing substance use.[78,79,83] MI was also found to be associated with attitude change towards drug use.[100] Contrary to these results, one systematic review found that psychological therapy that employed MI and MET was no different when implemented with pharmacotherapy or with placebo. In this review, the participants were adolescents with co-occurring substance use and depression.[92]

Another intervention that was commonly examined in this population group is BI. Eight systematic reviews included in this rapid review had examined BI as an intervention to reduce substance use. However, unlike FBT and MI, BI has not been consistently effective in reducing substance use. Five reviews found BI to be superior to control in reducing substance use among adolescents and young adults.[81,95–98] Another two reviews showed that BI was more effective in reducing substance use, but the effects were not sustained at follow-up.[95,99] One study shows similar results (i.e. effect not sustained) but owing to the heterogeneity in the literature, the findings are inconclusive.[94]

A narrative synthesis of a range of psychosocial interventions highlighted the effectiveness of behavioural and family-based interventions. The authors reported evidence for effectiveness of combined CM interventions with individual- or family-based interventions.[93]

On examining effectiveness of self-help groups, Bekkering et al. found when individuals have higher attendance and are actively involved in self-help groups, then the intervention is more effective than control conditions in reducing drug use, increasing abstinence, and reducing the number of relapses.

When they compared group counselling with individual counselling, Fanshawe et al. found that group counselling was more effective in increasing smoking cessation than individual counselling, combined group and individual counselling, and computer/messaging interventions.[80]

Pregnant and postpartum women (n =7). Seven systematic reviews examined the evidence on psychosocial interventions on substance use among pregnant women.[102–108] Three of the seven reviews also examined evidence on substance use during the postpartum period.[102,105,106] The identified reviews included RCTs, cluster-RCTs and quasi-RCTs, and mostly included studies conducted in Australia, New Zealand, the UK and the US. The reviews examined interventions such as MI, CM, combined psychological and educational intervention, and behavioural interventions. Control conditions included usual care, no intervention, placebo, less intensive intervention and alternative interventions. The interventions were delivered in person by healthcare professionals, were technology-based or were part of group therapy, and they were generally set in inpatient and outpatient settings, drug treatment facilities and in the community. Three of the included reviews focused on alcohol use, another three on tobacco use and one review focused on various substances. Outcomes for effectiveness used in the reviews were substance use or abstinence.

CM was found to be more effective than control conditions in reducing maternal substance use and increasing smoking cessation.[102,108] Counselling during late pregnancy, health education and feedback-based interventions are effective in increasing smoking cessation. Additionally, counselling was more effective than usual care in increasing smoking cessation at 0–5 months and 12–17 months postpartum; there was only a slight effect at 6–11 months postpartum.[102]

A combination of psychological and educational interventions is more effective than control conditions in increasing incidence of alcohol abstinence among pregnant women.[107] Two studies examined the effect of BI on substance use. A relative effect was demonstrated in only one review where BI was more effective than control conditions in reducing alcohol use during pregnancy and postpartum period. Additionally, BI received for alcohol use is also effective in decreasing depression scores among women in the postpartum period.[105]

Quality of the evidence

The level of evidence for psychosocial interventions in indigenous populations could not be established, due to substantial methodological limitations in RCTs showing positive effects. There was a range of evidence levels for the use of psychosocial interventions in special populations (see Appendix E). Based on an assessment of the highest level of available evidence for psychosocial intervention/s in a special population (within reviews published 2008–2019), there is Level I Evidence to support the use of MDFT in adolescents, Level II Evidence for the use of CBT plus MI in people with co-occurring mental health and substance use issues, and MI in people within the criminal justice system, and Level II/II for the use of counselling (including CBT, motivational, and support-focused) and BI-based interventions in pregnant women and in older people, respectively. Although promising, Levels of Evidence were often based on a small number of studies included in reviews. Further, in pregnant women and in older people, a heterogeneous mix of interventions were pooled together in analyses.

Similarly, there was considerable variability in the grading of the evidence for the different psychosocial interventions and across the four components of evidence base, consistency, clinical

impact and generalisability (see Appendix E). Of note, based on the included reviews here, no interventions for special populations received a grade of excellent (A) on any evidence quality component. In instances where a review included studies that varied on a component, this is reflected as a range. For the evidence base component, CBT plus MI for people with co-occurring substance use and mental health issues, and counselling for pregnant women were graded as good (B), MDFT for adolescents and MI for people in criminal justice system received a grade of satisfactory (C), while BI-based interventions for older people and combined CBT and pharmacotherapy for indigenous people were grade as satisfactory to poor (C–D) and poor (D), respectively. For consistency, the psychosocial interventions for adolescents, co-occurring mental health/substance use issues, and pregnancy were rated as good (B), interventions for older people and people in the criminal justice system were graded satisfactory (C), while interventions for indigenous people were graded poor (D). For clinical impact, interventions for pregnancy, for older people, and for people with co-occurring mental health/AOD use issues were graded as good to satisfactory (B–C), satisfactory (C), and satisfactory to poor (C–D), respectively. Interventions for adolescents, for people in the criminal justice system, and for indigenous people all received a grade of poor (D) for their clinical impact. Generalisability was poor (D) for interventions for people in the criminal justice system and for indigenous people. Interventions in other special populations was graded in the satisfactory (C) to good (B) range.

Variations in the strength of intervention-related effects and other inconsistencies arose from differences in intensity of interventions (i.e. how often interventions were delivered), length of follow-up and intervention settings. Intervention effects also seemed to vary by whether the intervention was standalone or delivered in combination with other interventions. For example, behavioural or family-based interventions may benefit from the addition of another psychosocial intervention such as CM.[93] On balance, we can conclude that psychosocial interventions are potentially effective in reducing substance use among special populations, however, better quality studies are needed. Additionally, studies to demonstrate effects of psychosocial interventions on other groups (e.g. LGBTIQ+, CALD, rural and remote areas) are urgently needed.

Question 3: What are the effective frameworks (i.e. process/care delivery models) that support the delivery of psychosocial interventions?

Question 3 aimed to examine frameworks (i.e. therapeutic processes and/or care delivery models) that support the delivery of psychosocial interventions have been found to be most effective for treating people with AOD issues.

Review characteristics

Appendix F summarises the characteristics of the 44 reviews pertaining to Question 3, including study type, years of publication covered by the review, number of studies and number of participants included, research aims, included AOD-using populations and psychosocial interventions, and setting. Thirty-eight were systematic reviews with or without meta-analyses (published 2009–2019), and 6 narrative/other literature reviews (published 2012–2019). Where reported, reviews included between 6 and 75 studies, and involved between 222 and >90,000 study participants. Alcohol, tobacco and

cannabis-using populations were the most common groups covered, with fewer reviews focusing on opioids, psychostimulants and polysubstance use. The most common framework examined by included reviews were technology-based interventions (TBIs). Reviews on a range of other frameworks (group treatments, client characteristics, models of service delivery, case management and therapist factors and alliance) were also included, however, these have received far less research attention in recent years.

Technology-based interventions (n=24). There were 24 reviews identified regarding the use of technology-based psychosocial interventions (TBIs). The majority of TBI reviews used web-based or mobile phone application-based interventions, however, other identified TBIs included telepsychology services (e.g. psychosocial intervention via real-time video and audio link) and SMS message interventions. Most of the TBIs identified used digital adaptation of existing treatments (e.g. CBT), however, most of these were blended interventions (e.g. MI+CBT) or interventions not adhering to a specific therapeutic orientation (often described only as counselling or psychotherapy). Common elements to these interventions included assessment and personalised normative feedback, psychoeducation, and goal setting. For this review, the term 'technology-based interventions' will be used to describe all psychosocial interventions administered via, or in conjunction with, technological aids.

The reviewed interventions are highly heterogenous, which is in part owing to the rapid development in technologies during the period of study publications (1990–2019). Most reviews identified studies from the US, Europe, Australia and New Zealand; seven reviews did not identify the locations of reviewed studies. There was a high level of heterogeneity in service/recruitment settings, with populations drawn from forensic settings, medical/outpatient clinics, AOD services, mental health facilities, universities, web-based recruitment, primary care settings, emergency departments, other workplaces, veterans treatment centres, and prenatal/midwifery clinics. Populations included both adolescents and adults. Despite TBIs being highly heterogeneous in terms of their content, style and duration, review results typically did not consider these factors. As such, most reviews pooled results for a variety of TBIs, which may not be reflective of the specific effectiveness of individual TBIs.

Overall, all 24 reviews identified some positive effect on AOD harm reduction outcomes (most commonly substance use reduction) for TBIs, although typically with small effect sizes. Three reviews highlighted that TBIs had equivalent results to in-person services[30,109,110] and two suggested TBIs were more cost-effective[111,112], however, there was no specific evidence to suggest TBIs alone were superior to traditional interventions. Important to this consideration was the use of guided TBIs in which a person still engages with a clinician via a TBI, or where a person is supported in the use of the TBI by a clinician. Four reviews reported superior results for guided versus unguided TBIs[109,113–115], while one found mixed evidence[116], and two reported superior results for the use of an adjunctive TBI with traditional clinical interventions, compared to traditional interventions alone.[113,115]

Alcohol was the most-studied substance, followed by cannabis and nicotine. Two reviews also suggested a greater effect on alcohol versus other drug use outcomes.[112,113] There was evidence specifically for the effectiveness of TBIs for alcohol[16,46,110–122], cannabis[14,29,30,109,111,123,124], nicotine[112,119,121,123] and opioid[109,121,125] use reductions. This evidence in general was reflective of small effect sizes. Only two reviews reported results for the effectiveness of TBIs for stimulant use[109,125], both of which found TBIs performed worse than control conditions. There was evidence that treatment interventions demonstrated degrading effects over time, suggesting that single, one-off TBIs may not be sufficient for sustained clinical improvement.[16,110,111]

There were limited findings of the impact of TBIs on secondary outcomes. One review found TBIs had equivalent results for self-reported social problems in comparison to TAU[117], while two others reported small significant effects of TBIs on alcohol-related social consequences[122] and cannabis-related problems.[29] One review identified a significant impact of TBI on quality of life, and improved work and social adjustment.[113]

Two reviews specifically examined the use of technology to facilitate counselling or psychotherapy interventions, via the use of telepsychology technology with audio-visual links between clinician and client.[126] For the first review, results indicated equivalent outcomes across four out of five outcome domains, with telepsychology interventions having a slightly greater effect on AOD-use outcomes over traditional intervention delivery, suggesting that technology can aid traditional service delivery. The second review found that telepsychology interventions produced equivalent results to in-person services regarding reduction in substance use and outperformed in-person services for treatment retention.[121]

One review identified factors related to the success of internet-based interventions, specifically that they should be intensive (requiring engagement and assignment completion), include educational material, only be used as an adjunctive rather than mainstay approach, and use a progressive approach through a course of treatment.[127] This is reinforced by another finding identifying that therapist-guided digital CBT performed better than traditional individual or group therapy, suggesting that the use of these technologies to facilitate traditional interventions is more effective than the provision of only education or self-assessments via technology.[115]

One review explored possible moderators of TBI-related treatment effects, and identified that gender, education level and age were significant moderators. In this review, being male, over the age of 55 and having lower education was more strongly associated with a positive treatment response (i.e. reduction in weekly alcohol consumption).[114] There was no strong evidence to guide the selection of particular TBIs for certain populations or presenting issues, with the exception of one review, which found that TBIs involving CBT typically outperformed those using other therapeutic orientations in clients with comorbid mental health conditions.[113] Three reviews suggested that TBIs can maintain effective therapeutic alliance – two via telepsychology services[121,126] and another using chat-based instant messaging.[109] One review reported attendance/engagement rates of 51–81% for telephone and computer-based interventions, however, no comparisons to in-person services were made.[29]

Overall, the available evidence suggests that TBIs can affect substance-use outcomes. It is likely that the use of these interventions as an adjunctive intervention to in-person services or TBIs guided by a clinician will be more effective than standalone interventions. TBIs using interventions from traditional therapies, specifically CBT, are associated with better outcomes and may have additional benefits in populations with comorbid mental health conditions. Technology may additionally be used to facilitate traditional face-to-face interventions.

Group treatments (n=6)*.* Six reviews of studies published between 1981–2016 examined the effectiveness of group therapy for AOD-using populations.[13,45,128–131] Most studies were conducted in the US and other high-income countries, and included RCTs, quasi-experimental, pre-post treatment and observational designs. The reviewed group therapy programs were heterogenous and included CBT, MI, supportive counselling, psychoeducation therapy, behavioural therapy, MBI, RP, coping skills training, DBT, MET and 12-step programs. Where described, control/comparison conditions were typically individual-based therapies (including CBT, 12-step, progressive relaxation training,

individual counselling) or TAU, self-help, waitlist controls or no intervention. Studies were conducted in a variety of inpatient, outpatient, primary-care, workplace and community settings.

Findings were mixed with regards to the effectiveness of group therapy for reducing AOD use. Four of the six reviews found that, overall, group therapies were typically more effective than no treatment, self-help and other less-intensive therapies.[128–131] One review that examined group treatments for smoking cessation in adults found group therapy was superior to individual therapy, and that the addition of one group session to individual interventions had an additive bonus with regards to quit rates.[129] Another review examining group therapy for adults with AOD-use disorders found group therapy was superior to no treatment, individual therapy, and therapies applying no specific therapeutic techniques for outcomes relating to abstinence rates and psychological distress, but not for frequency of substance use or symptoms of substance-use disorders.[130]

Two reviews examined group therapies for adolescents.[128,131] One review did not make direct comparisons between group and other modalities, but found some evidence for a positive impact of group treatment on reducing AOD use.[128] The other reviewed studies compared a range of different therapies (group therapy, behavioural therapy, family therapy, CBT, MET, skills training, psychoeducation) to a variety of control/comparison conditions.[131] Overall, family therapy was more effective than group therapy and had the strongest evidence of comparative effectiveness, although most types of treatment appeared to be beneficial in helping adolescents reduce their AOD use. One narrative review examined gender differences in the efficacy of AA and other 12-step group programs.[45] While findings were mixed, some evidence pointed towards AA attendance having a stronger effect for women than men on positive drinking outcomes and abstinence rates but no difference between women and men in terms of psychosocial outcomes.

Intervention intensity (n=4)*.* Four reviews included some analyses of the effect of intervention intensity on AOD-use related outcomes.[30,31,106,132] Two reviews focused on interventions for cannabis use[30,31] and two for smoking cessation.[106,132] Interventions and treatment settings were heterogenous. Two studies defined high-intensity interventions as those consisting of four or more treatment sessions, and low intensity as less than four sessions.[31,106] One review examined treatment intensity in terms of a dose response effect[30], and one did not fully describe the high vs low intensity interventions.[132] Results were mixed with two reviews finding that higher-intensity interventions outperformed those at lower intensity on AOD-use related outcomes[31.132], and two finding that intervention intensity had no effect.[30,106]

Client characteristics (n=4)*.* Two reviews examined the effectiveness of psychosocial therapy tailored for specific client characteristics (socioeconomic status and culturally adapted interventions).[133,134] One systematic review examined the effectiveness of culturally adapted psychosocial interventions for mental and substance use disorders.[133] This review included 16 studies published between 2007–2015 examining culturally unadapted, culturally adapted, and culture-based interventions, eight of which involved participants with substance-use problems. Studies compared an intervention group to a comparator/control group or used pre/post-test designs. Interventions were carried out in mental health or substance-use outpatient services, public/community mental health facilities, AA meetings and universities. Various psychosocial interventions were used including CBT, MI, goal setting, mentoring, education, and a 12-step program for behaviour change. All treatment interventions were delivered face-to-face and control/comparison groups were not described. Overall, modest improvements were seen with culturally adapted interventions across some of the psychological (depression, anxiety, distress, adaptive functioning) and AOD-use (frequency and amount of alcohol and other substance use) outcomes measured. However, there was no clear

evidence that culturally adapted interventions improved outcomes for Indigenous people and findings are limited by a very small existing evidence base.

The second review assessed whether the effectiveness of individual-level smoking cessation interventions for disadvantaged groups was moderated by socioeconomic position tailoring.[134] A variety of psychosocial interventions were used (not reported in full), and delivered face-to-face, digitally or over the telephone. There were no differences between tailored and non-tailored interventions with regards to abstinence rates, indicating that socioeconomically disadvantaged people perform equally well in untailored interventions.

Another review included an examination of the effectiveness of print-based self-help interventions for smoking cessation and compared interventions tailored to client characteristics with non-tailored interventions.[135] Specific information about the characteristics tailored for was not described fully. It was found that tailored interventions were more effective than no intervention for smoking cessation, but there was no difference between tailored and non-tailored interventions when interventions were matched for amount of contact.

One narrative review included an overview of studies that had examined matching client characteristics to treatment modality, setting/services and intensity of treatment.[136] There was very limited evidence for the effectiveness of matching clients to treatment modality. Evidence for the comparable effectiveness of less-intensive treatments suggests that the least intensive treatment should be offered in a stepped-care framework, as there is weak evidence for longer durations of treatment.

Taken together, from the small amount of evidence available, there is little to suggest that tailored interventions are more effective than non-tailored interventions.

Models of service delivery (n=5). Five reviews were identified that examined different models of service delivery (integrated care, stepped care, continuing care and stage-based interventions). Most of the studies included in these reviews were conducted in the US, with others being conducted in other high-income countries.

Integrated care (n=2). Two reviews of studies conducted between 2000–2015 focused on studies examining integrated care for concurrent mental health and AOD-use disorders.[137,138] One review of 12 RCTs, longitudinal studies and quasi-experimental studies examined the cost effectiveness and clinical outcomes of integrated care for concurrent mental health and substance-use disorders. The studies reviewed were conducted in substance-use and mental health treatment settings.[137] Three studies were used in a meta-analysis of the cost-effectiveness of integrated models of care. Two of these studies found that while treatment and outpatient costs were greater using integrated models for treating comorbid mental health and substance use problems compared with treating mental health problems alone, the treatment cost of the integrated model was not greater than that of standard care. Another three studies were used in the meta-analysis to examine substance use outcomes, one of which demonstrated greater effectiveness of integrated care for reducing substance use relative to standard care**.**

The second review covered 14 RCTs examining the efficacy of psychological therapies aimed at treating traumatic stress symptoms, substance misuse symptoms, or both in people with comorbid PTSD and SUD [138].[138] Interventions were trauma-focused therapy (any therapy including trauma-focused CBT or Eye Movement Desensitisation and Reprocessing), non-trauma-focused therapy for

PTSD and/or SUD (any CBT therapy addressing PTSD and SUD that does not include trauma-focused CBT or exposure therapy for PTSD symptoms) and active psychological therapy for SUD only (CBT for substance use, 12-step programs, contingency management, reinforcement-based therapies, coping skills-based therapy). This review found that individual trauma-focused psychological therapy integrated with SUD therapy performed better than TAU/minimal intervention in reducing PTSD severity post-treatment and at long-term follow-up, but reduced SUD only at long-term follow-up. All effects were small, and follow-up periods were generally short (3–12 months). There was evidence that fewer participants receiving trauma-focused therapy completed treatment. There was very little evidence to support use of non-trauma-focused individual- or group-based integrated therapies.

There were no reviews identified that investigated the efficacy or key components of integrated care for other comorbidities (e.g. physical health) or investigated general principles or effective mechanisms of integrated care.

Stepped care (n=1). One review of 21 RCTs published between 1966–2011 investigated the efficacy of stepped-care models involving psychosocial treatment of alcohol-use disorders and nicotine dependence.[139] Stepped-care programs involved a base (brief) intervention, and step-up interventions included CBT approaches, MI and pharmacotherapy. Control/comparison groups included no intervention, standard care and BIs. The trials were conducted in alcohol treatment programs, primary care, hospital, university and workplace settings, and examined the effectiveness of stepped-care interventions on abstinence, frequency and quantity of alcohol use and abstinence from smoking. Taken together, stepped-care interventions for alcohol and tobacco cessation did not demonstrate significant treatment benefits over usual care, however, most studies were underpowered to detect significant effects. Because of the lower level of intervention provided in stepped care, there is small evidence for improved cost-effectiveness.

Continuing care (n=1). One review of 20 RCTs (only six of which were found to be methodologically strong enough for analysis) published between 1985–2005 examined the effectiveness of continuing care interventions for adult patients with alcohol-use disorders.[140] Studies were conducted in outpatient continuing care settings (following prior intensive treatment in inpatient/outpatient settings). Interventions were delivered individually or in groups, using a range of approaches: supportive phone calls, CBT, MET, 12-step facilitation, RP, community nurse follow up, marital/couples therapy. Frequency and duration of continuing care contact varied between trials, most interventions ranging from 1–4 sessions a week, from 10–15 weeks. Comparison/control groups were most commonly 'usual continuing care', which differed between studies (no formal program, encouragement to attend at least two group sessions a year, individual supportive counselling, 12-step facilitation therapy, weekly support groups, social activities, medical follow-up). Three of six trials demonstrated continuing-care interventions to be more effective than controls on measures of alcohol-use frequency. As there are very few methodologically strong studies there is limited data, however, existing data indicates a trend of better outcomes in favour of continuing-care interventions more actively involving the patient compared with 'usual continuing care'.

Stage-based interventions (n=1). One review of 41 RCTs and quasi-RCTs published between 1993–2010 examined the effectiveness of stage-based interventions in helping smokers quit.[141] Studies were conducted in outpatient clinics, antenatal clinics, hospital wards, general practice, and education and population-based settings. Interventions were delivered in a variety of modalities (face-to-face, telephone, digital, self-help materials) and used a range of treatment types including personalised feedback, individual counselling or brief advice, interactive computer games, education,

training in the stage of change model of smoking cessation, and stage-based self-help. Control/comparison groups also varied and included generic self-help materials or services, 'usual care', assessment only and non-smoking-related healthcare interventions. Overall, stage-based self-help materials and individual counselling were no more effective than non-stage-based counterparts in terms of smoking cessation. Again, this lack of differences may reflect small sample sizes and inability to detect significant effects. This initial evidence suggests that stage-based tobacco cessation interventions do not demonstrate any benefit over non-staged-based interventions, and there is no evidence to suggest that pre-contemplative smokers would not benefit from usual intervention.

Case management (n=1). One systematic review of RCTs examined effectiveness of case management interventions for substance use disorders in adults attending community outpatient services.[142] Fourteen studies published between 1996–2003 were included. Case management interventions varied in their duration ranging from one month to three years (most commonly lasting 6–12 months). Intensity of the interventions was rarely reported, and content varied but all were conducted by case managers with a professional background (nursing, social work, mental health care). Case management was typically compared with TAU or usual AOD treatment. Twelve of the 14 studies in the review found improvement in some or all of their outcome measures (decrease in substance use, likelihood of initiating SUD treatment, greater treatment retention, improved access to health care/linkage to other providers, increased global functioning) relative to comparison/control groups. Substance use decreased in only five (one-third) studies, but treatment adherence and linkage between health care improved in most studies, which is an important issue for this population and one of the main aims of case management. The variety of outcome measures, treatment intensity and type of intervention make it difficult to compare results.

Therapist factors and alliance (n=1). One narrative review of five studies was identified that included any focus on therapist factors and therapeutic alliance.[136] In these studies, large differences were found between therapists in relation to treatment retention and outcomes in substance-using clients, and it was noted that these differences mirror those found in other (non-substance use) psychotherapy settings. Specific attitudes and behaviours that were associated with more effective therapists were empathy, understanding and support, goal direction, and the use of external resources. Strong working alliance and fidelity to treatment were found to be important factors regarding treatment outcome. These findings are based on small samples of studies and only reflect a narrative review of the literature. While very little recent empirical research was identified in the current rapid review, clinical guidelines for AOD-use disorders emphasise a sound therapeutic alliance as foundational for treatment success.[9,11,143]

Quality of evidence

Technology-based interventions. In considering the level of evidence for TBIs and the quality assessment of this evidence, it is important to again note the heterogenous nature of the reviewed literature, particularly highlighting that previous reviews have pooled results for disparate varieties of TBIs. Nonetheless, based on an assessment of the most recent, highest level of available evidence for TBIs (in reviews published 2008–2019), there is Level I Evidence to support their effectiveness for reducing harms related to AOD use. It is important to consider, however, that overall levels of evidence for TBIs are unlikely to translate to all types of TBIs. Rather, the level of evidence for different therapeutic modalities is likely to differ.

Overall, the best available evidence-base for TBIs was graded as Excellent, while consistency, clinical impact and generalisability were graded as Satisfactory to Good. In general, there was some inconsistency in findings that are largely explained by differing methodologies, however, the range of clinical populations reflected, and the range of therapeutic modalities used, impedes the clinical impact and generalisability of the evidence.

Group treatment. Based on the highest-quality evidence available, there is Level I Evidence to support group-delivered psychosocial treatments for AOD-use issues. The available evidence base for group treatment was graded as Good for evidence base, and Satisfactory for consistency, clinical impact and generalisability.

Intervention intensity. There is Level 1 Evidence to support the effectiveness of higher-intensity intervention compared with those at lower intensity. The evidence base was graded as Good, consistency as Good, and clinical impact and generalisability as Satisfactory.

Client characteristics. There is Level 1 Evidence to support the effectiveness of tailoring psychosocial interventions to client characteristics. The evidence base was graded as Satisfactory, consistency as Good, clinical impact as Satisfactory, and generalisability as Good. Again, there was some variability in quality domains due to characteristics of the included studies.

Models of service delivery

Integrated care. There is Level 1 Evidence to support the effectiveness of integrated models of care with regards to psychological and AOD-use outcomes. The evidence base, consistency, clinical impact and generalisability were all graded as Satisfactory.

Stepped care. There was insufficient research captured in the current review to enable a meaningful assessment of the quality of evidence for stepped-care interventions. The larger body of evidence, including research published prior to 2008, would need to be assessed.

Continuing care. For continuing care, there is Level I Evidence based on positive RCT findings. The evidence base was rated as Poor, consistency Satisfactory, clinical impact Satisfactory to Poor, and generalisability Satisfactory.

Stage-based interventions. There was insufficient evidence captured in the current review to allow for a meaningful quality of evidence assessment for the effectiveness of stage-based interventions relative to non-stage-based equivalents.

Case management. For case management, there was Level I Evidence based on synthesis of positive RCT findings. However, due to inadequate reporting on study bias, it was not possible to assess the quality of the evidence base. Considering the other evidence quality domains, consistency was rated as Good, clinical impact as Satisfactory, and generalisability as Excellent.

Therapist factors and alliance. Given that the current review captured minimal recent literature for therapeutic alliance, it is not possible to provide a meaningful quality of evidence assessment. The larger body of the research on therapist factors and alliance would need to be assessed in a review of the broader literature on this topic, including the empirical literature published prior to 2008.

Discussion

This rapid review and evidence check provided a comprehensive overview of the secondary literature on AOD psychosocial interventions. Through a rigorous synthesis of the recently published literature (2008–2019), this review provided up-to-date insights into the effectiveness of psychosocial interventions for people being treated for AOD-use issues, including people from special, high-priority populations, as well as the processes and models that are likely to enhance treatment outcomes.

Gaps in the evidence

In reviewing the secondary research literature it became apparent that there are many evidence gaps that would benefit from a review of the primary research. It is worth noting, that by focusing on published systematic and other literature reviews and guidelines, this review was not able to include most primary research studies published within past 18 months to two years. Future review efforts would complement the current review and provide more recent and in-depth insights into the current clinical landscape, with the view to informing the forthcoming guidelines for health professionals working in AOD-treatment services and in the community.

Outcomes beyond AOD-use reductions. Overall, there was a paucity of research on the effectiveness of psychosocial interventions on treatment outcomes beyond reducing and/or ceasing or abstaining from AOD use. Reductions in AOD use and its associated harms are only one of the aims of psychosocial interventions and may not be the only priority for people being treated for their AOD-use issues.[9] Thus, there is a need for more research to understand whether, and the extent to which, AOD psychosocial interventions lead to improvements in general health and wellbeing domains, as well as the comparative effectiveness of interventions. Greater understanding of improvements in these domains will aid clinical decision-making and help advance person-centred and holistic care, in line with national and international treatment principles.[9,11]

Interventions that involve family members/caregivers. Other than some literature on family-based therapy approaches in adolescents, there is a dearth of secondary research on the effectiveness of psychosocial interventions involving the people who support those being treated for AOD-use issues (i.e. family members, partners, other caregivers). Involvement of family in treatment is recommended by other guidelines as it can strengthen and extend treatment benefits.[11] A greater understanding is needed to inform evidence-based strategies for involving people who are significant to people in treatment for AOD-use issues.[143]

Substances other than alcohol and tobacco. To date, the literature within reviews has focused on the effectiveness of psychosocial interventions for a limited set of substance types, primarily alcohol, tobacco and to a lesser extent cannabis. Although these substances are responsible for most AOD-related harms and burden of disease in Australia[5,144], there is a pressing need to understand the effectiveness of psychosocial interventions in other substance types (e.g. psychostimulants, polydrug

use) as well as in new and emerging synthetic drugs. Establishing the comparative effectiveness of psychosocial interventions for different substance types will help to determine whether interventions are acceptable, feasible and appropriate to use in different AOD-using populations (e.g. MI/MET found to be more effective for alcohol and cannabis use issues than for tobacco and other substances).[32,37] Indeed, current Australian Psychological Society Guidelines do not distinguish between different types of substance-use disorders in recommending first-line treatment.[145]

High heterogeneity in the research. The reviewed literature was highly heterogenous in relation to type and duration of treatment and outcomes as well as the specific AOD-using populations being treated. In light of this heterogeneity, it is difficult to make firm conclusions with regards to the effectiveness of psychosocial interventions. A future review of the primary literature would help to tease out what are the minimum requirements (e.g. included content, number of sessions and duration of treatment) for delivering positive outcomes for clients/patients and which types of outcomes (e.g. AOD-use reductions versus abstinence/cessation) are more or less likely to show benefit.

Predominance of RCT-based evidence. The reviewed evidence on psychosocial interventions for AOD use is largely based on RCTs that are highly controlled and are unlikely to reflect real-world clinical practice. A review of primary research studies would permit a synthesis of the evidence based on non-RCT study designs, which are less likely to be included in systematic reviews. For example, a review of implementation trials and pragmatic RCTs consider 'real-world' factors and would provide valuable information on the utility, feasibility and uptake of psychosocial interventions in clinical practice.

The evidence gaps outlined below were primarily applicable to Questions 2 and 3, which captured a more emerging evidence base. With regards to the effectiveness of psychosocial interventions to treat special populations with AOD-use issues (Question 2), some identified gaps in the current evidence base include: lack of studies on LGBTIQ, CALD, rural and remote communities, and limited numbers of studies among Indigenous populations and older people. The individuals from these groups are generally more vulnerable to AOD-use disorders with rates of AOD use reported to be higher than the general population. Therefore, there is a need to identify effective psychosocial interventions for these vulnerable groups.

With regards to the effectiveness of different frameworks to enhance the delivery of psychosocial interventions to treat people with AOD-use issues, some identified evidence gaps are outlined below.

Technology-based interventions. There is a paucity of studies with direct head-to-head comparisons of different types of technology-based interventions (TBIs). Developing a greater understanding of the differential effects and utility of, for example, internet/website-based vs mobile phone application-based interventions would greatly aid clinical implementation.

Given the known issues with uptake of TBIs in general[146] there is also a need for information regarding retention and usage rates of TBIs in real-world clinical populations, and on the factors that may impact uptake and retention. Relatedly, there is a need for clinical implementation guidelines for the application of TBIs in AOD settings. A more thorough review of the primary literature may help adapt the findings of this review into clinical practice, particularly in light of possible discrepancies. For example, in broader reviews, clinician guidance has been found to have only a small effect of questionable clinical significance on treatment outcomes in TBIs[147], however, the current review identified guided interventions as likely more effective. Therefore, there is likely benefit in exploring

the broader literature on TBIs to inform clinical practice until a more specific evidence base is established on the use of TBIs in real-world clinical settings.

Group treatment. A small amount of research on group treatments was identified. More well-designed trials examining efficacy of different group treatments in relation to controls and other therapies are needed. Further research on active group treatment mechanisms, optimal group characteristics and optimal duration and number of sessions would be beneficial.

Frameworks and models that support integrated and person-centred care. Stepped-care and stage-based interventions are widely recommended in clinical guidelines, however, the research identified in this review was inconclusive regarding their efficacy. There is a need for more well-designed studies with sufficient sample sizes for detecting effects.

While some evidence points to greater effectiveness of integrated approaches and treatments for co-occurring mental health and AOD-use disorders, there is a need for further investigation into types of integrated care for specific disorders and AOD-using populations. In the National Drug and Alcohol Research Centre's 2016 Technical Report on comorbid mental and substance-use disorders, it is noted that studies that focus on specific mental disorders demonstrated greater benefit of integrated care, while studies reviewing mental disorders as a combined category had mixed results. There were significant gaps in the recent evidence regarding the broader application of integrated-care principles, and the key elements or mechanisms of such interventions. Discerning the specific mechanisms underlying effective therapy—especially in the context of complex or multimodal interventions—is a challenge and may warrant a search of the more recent primary research, which was unlikely to be captured in the current review of reviews.

The small amount of research that examined effects of treatment intensity had mixed findings and focused on tobacco and cannabis use. There was heterogeneity in terms of the type of interventions being delivered and how treatment intensity was measured (high vs low intensity, or as a dose-response effect). There is a need for more research assessing for optimal intensity of interventions using different treatment modalities with different AOD-using populations.

Concordance of findings with other guidelines

AOD psychosocial interventions in general

Focus on harm reduction and minimisation together with broader treatment outcomes. Reflecting the focus of many studies included in this review, harm reduction and minimisation underlies many current state-based and national guidelines for the provision of AOD treatments.[9,143,148] Concordant guidelines include the recently released National Quality Framework for Drug and Alcohol Treatment Services[148], which will form the framework for treatment provision across the country. The effectiveness of psychosocial treatments at reducing AOD use has been the focus of most of the recently published reviews analysed here. However, by mainly focusing on AOD use-related outcomes, the reviewed literature did not consider other important aspects/goals of treatment, improvements in health, and social and emotional wellbeing.[11,148,149] These broader treatment goals are consistent with holistic and person-centred approaches to care and align with key treatment principles.[143,150]

Need for aftercare and ongoing supports post treatment. Not captured within the current published literature is the importance of the continued need for supports after treatment in order to maintain or continue building on gains made during treatment for AOD (e.g. availability of social supports, follow-up care, long-term pharmacotherapy).[149] In this way, observed improvements at post-treatment may not be reflective of the longer-term impact of treatment. A lack of after-care and supports may explain the reduced or inconsistent maintenance of treatment benefits at longer-term follow-ups. Effective treatment may require several episodes of care, and an individual's goals for treatment alongside the delivery of evidence-informed care.[9,148,150]

Support for Brief Interventions (BI). In this review, the provision of BIs for harmful and hazardous AOD use in non-specialised settings (especially the primary care setting) were supported by Level I Evidence of overall Good quality. BIs are recommended as a core part of the treatment system, according to the National Quality Framework for Drug and Alcohol Treatment Services.[148] The use of BIs is also supported by WHO drug treatment guidelines[149] for their rapid, efficient and cost-efficient delivery that cause minimal disruption to the provision of other treatment services (e.g. for the presenting condition for which person is seeking treatment).

Other substances and role of pharmacotherapy. Methamphetamines and other psychostimulants are the top-listed substance within the priority areas of focus for consideration in implementation for The National Drug Strategy 2017–2019.[151] Yet, these substances have received relatively little attention in the recent published empirical literature compared to alcohol, tobacco and cannabis.[152]

Finally, the available published literature reviewed the evidence for psychosocial interventions both as a standalone therapy and as an adjunct to pharmacotherapy. This recognises the complementary roles of both medication and psychotherapy as part of a comprehensive treatment plan, especially for AOD-using populations, such as people who are being treated for opioid use or smoking tobacco.[11]

AOD psychosocial interventions for special populations

Older people. This review identified that in older people BI-based interventions are effective when combined with pharmacotherapy and regular follow-ups. BIs are among a range of recommendations indicated for NSW drug and alcohol and mental health services by a 2015 NSW Ministry of Health report on older people's AOD use and its treatment.[153] With rising AOD-use issues among older Australians, one priority for AOD services is ensuring age-appropriate design in order to address potential barriers to treatment uptake and ongoing follow-up.[153]

Indigenous populations. Overall, the quality of evidence for psychosocial interventions in Indigenous populations was poor, with limited clinical impact and generalisability to the target population. National guidelines advocate for greater consideration of Indigenous populations as they are a group in the community at heightened risk of developing AOD-use issues, and more vulnerable to AOD-related harms.[148] It is critical that any interventions for Indigenous populations need to be culturally sensitive and designed in collaboration with the community if they are to engage this population group and have positive impacts on AOD use.[154]

People with co-occurring AOD use and mental health issues. Both state- and national-level guidelines recognise the need to build workforce capacity in the AOD sector to effectively treat individuals with co-occurring mental health issues.[9,10] While the evidence base from recent years is encouraging, little is known on the effectiveness of interventions for specific AOD use and mental health comorbidities, aside from problematic alcohol use and depression or anxiety.

People in contact with the criminal justice system. Group therapy was generally more effective in this population, and may address broader psychosocial issues such as marginalisation, stigma and discrimination, which are implicated in the development and treatment of AOD issues.[148] While there is a need for better interventions for offenders of all gender identities, the focus needs to be put on female offenders given their higher risk of relapse upon release from jail.[66]

Young people. In addition to family-based therapy approaches, there was some evidence to support the effectiveness of self-help groups, especially when rates of attendance and involvement are high. Peer-run self-help groups use 'youth-friendly approaches' and represent avenues of future research and implementation.[155]

Pregnant and postpartum women. Many of the reviewed AOD psychosocial interventions for pregnant and postpartum women were delivered in groups, which is consistent with WHO governing principals on promoting social support and inclusion in this population.[156] There was, however, no identified review evidence on family-based interventions in pregnant and postpartum women, which is another important recommendation in the broader literature.[102,155]

Frameworks for the delivery of AOD use psychosocial interventions

Implementation of Technology-based Interventions (TBI) in AOD treatment – Key considerations. Although beyond the scope of the current rapid review, the broader clinical literature on TBIs in general healthcare supports its use for delivering psychosocial interventions to people with AOD-use issues. It is likely that this broader literature can inform the implementation of TBIs in AOD treatment. For example, Carroll and Kiluk[157] conducted an additional review of CBT interventions for AOD-use disorder not captured in the current review. This additional review highlights the potential for TBIs to be used to both engage populations not serviced by traditional means (e.g., due to stigma or remote locations), and also for treatments to be modularised to enable individualisation of treatment packages.

The use of TBIs in AOD treatment has been increasingly considered in clinical guidelines and the literature more broadly. For example, the Victorian Ministry of Health Guideline for Alcohol and Other Drug Programs recommends that TBIs may have utility as a means of providing multi-modal, integrated treatment, particularly as a pre-care intervention or in assisting people on waiting lists for traditional treatment.[143] Applications such as this are promising and other guidelines highlight the potential of TBIs as both a targeted intervention and a supplement or adjunct to traditional interventions (see guidelines elsewhere[9]).

There is increasing focus on incorporating TBIs into forward planning in healthcare, and given this, future clinical guidelines need to consider this carefully.[158,159] The current review was unable to provide information regarding the practical implications of TBIs in real-world clinical settings. At present, the WHO Guideline for Digital Interventions for Health System Strengthening[160] recommends client-to-provider telemedicine under the condition that it complements, rather than replaces, face-to-face delivery. This guideline additionally highlights that this should occur only in settings where patient safety, privacy, traceability, accountability and security can be monitored, but highlights that doing so has benefits to address geographic barriers to engagement, insufficient supply of treatment providers, and avoid delays in the provision of care.[160] While there are apparent benefits of TBIs in AOD treatment, there is very limited specific guidance on the implementation of such interventions, an area that requires further research.

Wide support for group-based treatments. Group-based treatment programs are widely used and clinically well accepted. Many psychosocial interventions for substance use are routinely provided in group format. Most of the current clinical guidelines recommend psychosocial group treatments and some also emphasise the importance of group support post-treatment.[9,11,161,162]

Frameworks and models that support integrated and person-centred care. Frameworks and models of service delivery examined in this review (integrated care, stepped care, continuing care and stage-based treatment, case management) are commonly recommended by clinical guidelines[9,11,161–164] and are widely recognised as important aspects of the integrated, client-/patient-centred care required for the often complex needs of substance using clients. Given the known complexities of comorbidity in AOD populations, it is particularly important to consider how treatment can best address multiple presenting issues. The *Guidelines on the Management of Co-occurring Alcohol and Other Drug and Mental Health Conditions in Alcohol and Other Drug Treatment Settings (2nd edition)* highlights the role of comorbidity between AOD and mental health conditions and provides general principles to consider in addressing comorbidity.[10] These include key elements of therapeutic alliance (client-centred practice, non-judgmental attitude, and a non-confrontational approach) along with key practice procedures such as recognising and assessing comorbidities in all clients, regular monitoring of symptoms and outcomes, the involvement of family and carers in treatment, and ensuring continuity of care. Although not specifically identified within the body of recent evidence, these factors are common among existing clinical guidelines and remain core components of AOD-treatment approaches (see co-existing guidelines elsewhere[9]).

These principles of integrated and person-centred care are well demonstrated in existing guidance for trauma-informed care and practice. Although the current review identified some recent literature addressing trauma-focused treatment of comorbid PTSD and SUD, there was no recent evidence regarding the general use of trauma-informed care and practice in AOD treatment. Within existing guidance documents, these approaches align with the principles proposed by the comorbidity guidelines, but further emphasise the unique role of psychological trauma in the development and maintenance of AOD problems. Guidance in this area suggests routine screening for trauma-related symptoms and issues, psychoeducation and, where appropriate, trauma-focused interventions, but also service wide approaches that generate a sense of safety for consumers and minimise the risk of re-traumatisation.[9,165] While integrated care in general has proven more effective in RCT-based research for comorbid PTSD-SUD[165], the general principles of trauma-informed care and practice extend beyond these interventions, and beyond only individuals with confirmed diagnoses of PTSD or related conditions. As such, these approaches have utility even for individuals who do not engage in trauma-focused interventions, through guiding the assessment and formulation processes and the pacing and progression through treatment to meet individual consumer needs.

The minimal amount of evidence found for the various frameworks for delivery in the current review is in contrast to the existing clinical guidelines. As such, reviews of the broader literature on these topics are likely highly relevant. Themes common to various delivery models are found across clinical guidelines. Taking a collaborative, person-centred approach where clients' varying needs (e.g. psychological, social, medical, legal, vocational) are addressed is emphasised.[9,11,143] Addressing these complex issues requires effective assessment, case formulation and treatment planning, with sufficient flexibility to adapt to individual clients' changing circumstances and requirements.

Therapeutic alliance is a well-established principle underpinning psychosocial treatments, and numerous clinical guidelines highlight the development of a strong therapeutic alliance as important at

all stages of treatment and key to treatment success.[9,11,161–164] Personal attributes on the part of therapists (a non-judgmental attitude, flexibility, honesty, respect, trustworthiness, friendliness, warmth) and clients (e.g. openness and willingness to engage with tasks) are commonly identified as contributing positively to therapeutic alliance, increased engagement and positive outcomes.

Conclusion

This review identified a number of psychosocial interventions with evidence to support their effectiveness in the treatment of people with AOD-use issues. Among these psychosocial interventions, CBT, BI and CM approaches are supported by Level I Evidence which was of Satisfactory quality at a minimum across all domains. Given that not everyone responds to well-researched treatments with a high level of evidence (e.g. CBT), there also a need to grow the evidence base for new and emerging treatments that may show superior effectiveness for these people. Additionally, it is apparent that the use of technology in the delivery of these interventions is also supported by the literature, although there is insufficient guidance available on the real-world implementation of such technology. Due to the heterogeneous nature of the primary research studies, and ways in which the primary research was analysed and reported within the included reviews, any conclusions regarding the effectiveness of interventions should be taken with some caution. Decisions about which evidence-based psychosocial intervention is most suitable to use should be guided by clinical expertise and consider the client/patient's individual circumstances and preferences.

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Appendices

Appendix A— Database search terms

Database search terms

Database name	AOD-related terms	Psychosocial intervention-related terms	Review-related terms	Limits
PsycINFO via Ovid (845 returned results as of 23-01-2020)	1. alcohol abuse/ or binge drinking/ 2. exp alcoholism/ 3. exp drug abuse/ 4. ((abuse* or misuse* or dependenc* or addict* or disorder* or problem* or hazard* or harm* or risk*) adj4 (substance or sud or drug* or alcohol* or amphetamine* or cannabis or marijuana or cocaine or inhalant* or hallucinogen* or phencyclidine or heroin or morphine or opioid* or stimulant* or tobacco or sedative* or hypnotic or anxiolytic*)).tw. 5. **1 or 2 or 3 or 4**	6. psychotherapy/ or behavioural therapy/ 7. ((psychosocial* or psychological* or treatment or intervention* or intervent* or therapy or psychother* or counsel* or “cognitive behavio?r*” or cbt or “behavio?r* therapy” or “motivational interview*” or MI or “behavio?r* activation” or BA or BI or BMI or psychodynamic* or interpersonal* or “emotion regulation*” or “mindfulness based stress reduction*” or MBSR or “dialectical behavio?r* therapy” or DBT or “acceptance and commitment therapy” or ACT or “self help” or“self-help” or “support group” or “peer group” or “twelve step” or “12 step” or “eye movement desensiti?ation reprocessing” or EMDR or “contingency management” or relapse prevent*)).tw. 8. **6 or 7**	9. ((review* or synthes*) adj4 (literature or systematic or evidence or rapid or narrative or integrative or scoping or concept* or state of the art or evidence)).tw. 10. ((meta-analy*)).tw. 11. **9 or 10**	12. **5 and 8 and 11** 13. limit 12 to (human and english language and (childhood <birth to 12 years> or adolescence <13 to 17 years> or adulthood <18+ years>) and yr="2008 -Current")

Database search terms

Database name	AOD-related terms	Psychosocial intervention-related terms	Review-related terms	Limits
Medline via Ovid (1083 returned results as of 23-01-2020)	1. alcoholism/ or binge drinking/ 2. exp Substance-Related Disorders/ 3. ((abuse* or misuse* or dependenc* or addict* or disorder* or problem* or hazard* or harm* or risk*) adj4 (substance or sud or drug* or alcohol* or amphetamine* or cannabis or marijuana or cocaine or inhalant* or hallucinogen* or phencyclidine or heroin or morphine or opioid* or stimulant* or tobacco or sedative* or hypnotic or anxiolytic*)).tw. 4. **1 or 2 or 3**	5. exp Behavior Therapy/ 6. ((psychosocial* or psychological* or treatment or intervention* or intervent* or therapy or psychother* or counsel* or “cognitive behavio?r*” or cbt or “behavio?r* therapy” or “motivational interview*” or MI or “behavio?r* activation” or BA or BI or BMI or psychodynamic* or interpersonal* or “emotion regulation*” or “mindfulness based stress reduction*” or MBSR or “dialectical behavio?r* therapy” or DBT or “acceptance and commitment therapy” or ACT or “self help” or“self-help” or “support group” or “peer group” or “twelve step” or “12 step” or “eye movement desensiti?ation reprocessing” or EMDR or “contingency management” or relapse prevent*)).tw. 7. **5 or 6**	8. ((review* or synthes*) adj4 (literature or systematic or evidence or rapid or narrative or integrative or scoping or concept* or state of the art or evidence)).tw. 9. ((meta-analy*)).tw. 10. **8 or 9**	11. **4 and 7 and 10** 12. limit 11 to (humans and yr="2008 -Current" and ("child (6 to 12 years)"or "adolescent (13 to 18 years)" or "young adult (19 to 24 years)" or "adult (19 to 44 years)" or "young adult and adult (19-24 and 19-44)" or "middle age (45 to 64 years)" or "middle aged (45 plus years)" or "all aged (65 and over)" or "aged (80 and over)"))
EMBASE via Ovid	1. alcohol abuse/ or binge drinking/ 2. exp alcoholism/ 3. exp drug abuse/ 4. substance abuse/	7. psychiatric treatment/ 8. ((psychosocial* or psychological* or treatment or intervention* or intervent* or therapy or psychother* or counsel* or “cognitive behavio?r*”	10. ((review* or synthes*) adj4 (literature or systematic or evidence or rapid or narrative or	13. **6 and 9 and 12** 14. Limit 13 to (human and english language and yr=”2008 – Current” and (school child <7 to 12 years> or adolescent <13 to

Database search terms

Database name	AOD-related terms	Psychosocial intervention-related terms	Review-related terms	Limits
(2045 returned results as of 23-01-2020)	5. ((abuse* or misuse* or dependenc* or addict* or disorder* or problem* or hazard* or harm* or risk*) adj4 (substance or sud or drug* or alcohol* or amphetamine* or cannabis or marijuana or cocaine or inhalant* or hallucinogen* or phencyclidine or heroin or morphine or opioid* or stimulant* or tobacco or sedative* or hypnotic or anxiolytic*)).tw. 6. **1 or 2 or 3 or 4 or 5**	or cbt or "behavio?r* therapy" or "motivational interview*" or MI or "behavio?r* activation" or BA or BI or BMI or psychodynamic* or interpersonal* or "emotion regulation*" or "mindfulness based stress reduction*" or MBSR or "dialectical behavio?r* therapy" or DBT or "acceptance and commitment therapy" or ACT or "self help" or"self-help" or "support group" or "peer group" or "twelve step" or "12 step" or "eye movement desensiti?ation reprocessing" or EMDR or "contingency management" or relapse prevent*)).tw. 9. **7 or 8**	integrative or scoping or concept* or state of the art or evidence)).tw. 11. ((meta-analy*)).tw. 12. **10 or 11**	17 years> or adult <18 to 64 years> or aged <65+ years>))
Scopus (2000 returned results as of 28-01-2020)	((TITLE-ABS KEY ((abuse* OR misus* OR dependen* OR addict* OR disorder* OR problem* OR hazard* OR harm* OR risk*) W/4 (substance* OR sud OR drug* OR alcohol* OR	AND ((TITLE-ABS KEY (psychosocial* OR psychological* OR treatment* OR intervention* OR "intervention* therap*" OR psychother* OR counsel* OR "cognitive behavio*" OR cbt OR "behavio* therap*" OR "motivational interview*" OR mi OR "behavio* activation" OR ba OR bi OR bmi) OR TITLE-ABS-KEY (psychodynamic*	AND ((TITLE-ABS-KEY ((review* OR synthes*) W/4 (literature OR systematic OR evidence OR rapid OR narrative OR integrative OR scoping OR concept* OR "state of the art" OR	AND (LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2016) OR LIMIT-TO (PUBYEAR , 2015) OR LIMIT-TO (PUBYEAR , 2014) OR LIMIT-TO (PUBYEAR , 2013) OR LIMIT-

Database search terms

Database name	AOD-related terms	Psychosocial intervention-related terms	Review-related terms	Limits
	amphetamine* OR cannabis OR marijuana OR cocaine OR inhalant* OR hallucinogen* OR phencyclidine OR heroin OR morphine OR opioid* OR stimulant* OR tobacco OR sedative* OR hypnotic* OR anxiolytic*))) OR (TITLE-ABS-KEY (alcoholi* OR "binge drink*" OR "substance related disorder*")))	OR interpersonal* OR "emotion* regulation*" OR "mindfulness based stress reduction*" OR mbsr OR "dialectical behavio* therap*" OR dbt OR "acceptance and commitment therap*" OR act OR "self help" OR "support group" OR "peer group") OR TITLE-ABS-KEY ("twelve step" OR "12 step" OR "eye movement reprocessing" OR emdr OR "contingency management" OR "relapse prevent*" OR "behavio* therap*")))	evidence)) AND TITLE-ABS-KEY ("meta analys*")))	TO (PUBYEAR , 2012) OR LIMIT-TO (PUBYEAR , 2011) OR LIMIT-TO (PUBYEAR , 2010) OR LIMIT-TO (PUBYEAR , 2009) OR LIMIT-TO (PUBYEAR , 2008)) AND (LIMIT-TO (LANGUAGE , "English"))

Appendix B— Eligibility criteria for Questions 1, 2, and 3, with additional criteria indicated for Questions 2 and 3.

Eligibility criteria for Questions 1, 2, and 3, with additional criteria indicated for Questions 2 and 3

PI(E)COS	Included	Excluded
Patient/Population/Problem	- People being treated for AOD issues - People supporting those being treated for alcohol and other drug issues (e.g. family caregivers, peers/peer workers)* - People aged over 12 years old **Additionally for Question 2**, this will include reviews/guidelines that report on special populations of interest: – Older people – Aboriginal people – People who are LGBTQI – Culturally and linguistically diverse populations – People living in rural and remote areas – People with mental health issues – People in contact with the criminal justice system – Young people aged 12–24 years – Pregnant women – People with neurocognitive impairments	– People being treated primarily for issues other than AOD (e.g., mental health condition, pain, cancer, alcohol-related liver disease) – People supporting those being treated primarily for issues other than those related to alcohol/other drug issues (e.g. mental health condition, pain, cancer, alcohol-related liver disease). – People aged younger than 12 – Formal/paid support people, carers, case managers, health professionals etc. – Special populations of interest other than those reported in inclusion criteria (e.g., University students, military personnel). *** In mixed patient samples, outcomes NOT reported separately for above population/patients and/or above populations comprise <50% of the overall samples***
Interventions	Psychosocial interventions. These are defined as interventions that focus on social and psychological behaviours that *"… provide individuals an opportunity to explore, discover and clarify ways of living more resourcefully, with a greater sense of wellbeing and encompass the physical, psychological, spiritual, environmental, family and cultural values"* (p.11 The 2008 Professional Practice Guidelines) Within scope is psychosocial therapy content and includes family therapy and psychosocial therapy delivered by eHealth.	Do NOT involve any intervention or; Involve only non-psychosocial interventions, for example interventions focusing on: – pharmacology – physical health/activity – (neuro)cognition

Eligibility criteria for Questions 1, 2, and 3, with additional criteria indicated for Questions 2 and 3

PI(E)COS	Included	Excluded
	Additionally for Question 3, eligibility criteria includes reviews/guidelines that report on: 1) therapeutic processes (pertaining to the therapeutic relationship e.g. therapeutic alliance, professional–client interactions, patient-centredness, shared decision-making); and/or 2) service delivery models and frameworks (e.g. stepped care, staged care, integrated care, interdisciplinary care, collaborative care, online/e-health/m-health delivery, peer worker model)	
Comparison/Control group	- Studies with and without a control group	None
Outcomes	Effectiveness[a] outcomes related to: – General health (e.g. psychological, emotional, psychosocial, physical status) – Wellbeing (e.g., quality of life, psychological/psychosocial functioning, lifestyle improvements, suicidal ideation/risk). – Harm reduction (e.g. reducing the quantity and frequency of AOD use to non-harmful levels or abstinence; reducing the negative effects and/or risk-taking behaviours associated with use; relapse prevention; adherence/compliance with medications to reduce harm; treatment engagement/adherence/retention, which in turn reduces harm)	Outcomes that do NOT relate to effectiveness, for example those focusing on: – feasibility – acceptability – fidelity – cost – efficiency – timeliness – safety
Setting/s	• Inpatient or outpatient settings o Inpatient specialist settings (alcohol and other drug services) o Inpatient non-specialist settings (e.g. mental health inpatient facilities, general medical wards, surgical wards, emergency departments or intensive care units) o Residential programs (e.g. non-government rehabilitation services) o Specialist outpatient/ambulatory services (e.g. alcohol and other drug clinical services) o Community-based settings (e.g. GPs, Aboriginal Community Controlled Health Organisations or similar)	• Non-treatment service settings (e.g., university campuses, schools, other educational or vocational settings, the military service). • Service settings different to those in Australia (i.e., regions not listed in inclusion criteria), e.g.: o South America o Africa o Middle East o Eastern Europe and Russia

Eligibility criteria for Questions 1, 2, and 3, with additional criteria indicated for Questions 2 and 3

PI(E)COS	Included	Excluded
	○ Home-based (in-home visits) ○ In custody • Service settings similar to those in Australia, for example: ○ The US ○ The UK ○ Western Europe and Scandinavia ○ Canada ○ New Zealand	○ China, Taiwan, India, Japan and South/East Asia ○ Pacific Islands
Study type/design	Secondary research, including: – Meta-analyses published 2008–2019 – Systematic reviews published 2008–2019 – Literature reviews published 2008–2019 – Literature reviews in the grey literature 2008–2019 Most recent guidelines on use of psychosocial interventions in treating AOD-use issues (published 2013–2019).	Primary research studies, including: – Randomised controlled trials (and other experimental studies) – Quasi-experimental studies (e.g. uncontrolled trials, pre-test/post-test designs) – Observational studies (e.g., cross-sectional surveys, cohort) – Quantitative and qualitative (including qualitative only) studies – Protocol or conference papers – Other peer-reviewed research studies or articles – Case report or series – Editorials or commentaries – Animal studies

Note. [a.] Focus on effectiveness of interventions on general health, wellbeing and harm-reduction outcomes. How effectiveness is defined is consistent with how effectiveness was defined in the reviews. Provided examples of effectiveness outcomes were based on the goals of psychosocial treatment as reported in the 2008 Professional Practice Guidelines (p. 20).

Appendix C— Overall review characteristics

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
Agosti et al. 2012	Meta-analysis	1980–2007	18 2,597	To test whether addition of manualised psychosocial interventions reduces frequency of relapse in adults dependent on alcohol and treated with Naltrexone or Placebo	Adults with diagnosed alcohol dependence	None	Adjunctive CBT, Non-CBT psychosocial intervention	None	Not reported	1
Aldi et al. 2018	Systematic review	First available–June 2017	27 7,592 (approx)	To assess the effectiveness of pharmacological, psychological, or combined interventions for smoking cessation in people with current or past major depressive disorder (MDD)/depressive symptoms (DS) without medical or comorbid psychiatric disorder(s)	Current adult smokers with current or past history of major depression or depressive symptoms	People with co-occurring AOD use and mental health issues	CBT	None	Not reported	2
Amato et al. 2011a	Cochrane systematic review	1980–June 2011	35 4,319	To compare effects of combination psychosocial plus pharmacological maintenance treatments to	Adults with opiate addiction	None	Various; Behavioural (e.g. CBT/ACT), Psychoanalytic (Interpersonal Therapy), Counselling, Other interventions (e.g. 12-	None	Inpatient, specialist	1

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
				pharmacological maintenance treatments alone in opioid dependence, on treatment retention, substance use reduction, and improved health and social status			step facilitation) + pharmacotherapy (vs pharmacotherapy alone)			
Amato et al. 2011b	Cochrane systematic review	1980–June 2011	11 1,592	To compare effects of combination psychosocial plus pharmacological detoxification treatments to pharmacological detoxification treatments alone in opioid dependence, on treatment retention, substance use reduction, engagement in further (maintenance) treatment and improved health and social status	Adults with opiate addiction	None	Various; Behavioural (e.g. CM), Structured Counselling, FT	None	Inpatient, specialist	1
Apollonio & Bero 2016	Cochrane systematic review	1970–August 2016	23 applicable (34 in total)	To compare effects of tobacco cessation interventions on tobacco abstinence in people in concurrent treatment for, in	Young people and adults (15 years +) being treated for, in recovery from AOD use dependence with tobacco use issues	None	Various; counselling (e.g. individual, MI, CBT), combined counselling and pharmacotherapy	None	Inpatient or outpatient, or in recovery and participating in tobacco cessation study	1

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
			4,018 applicable (5,796 in total)	recovery from AOD use dependence						
Babowitch et al. 2016	Systematic review	1 January 2005–31 October 2015	15 1,123	To provide a focused synthesis and critique of the quantitative literature on adolescent treatment outcomes for comorbid depression and substance misuse. To achieve this aim, this paper synthesised the empirical evidence for the multiple models of integrated treatment for substance use and depression and (2) examines proposed mechanisms underlying symptom change in the integrated treatment of depression and substance use	Adolescents with cooccurring depression and substance misuse	Adolescents with co-occurring depression and AOD use issues	CBT, MET, and FFT	None	Clinical (not specified)	2
Baker et al. 2012	Systematic Review	First available–March 2010	8 831	To determine whether psychological interventions that target alcohol misuse among people with cooccurring	People with unipolar depression, dysthymia or anxiety disorders with co-occurring alcohol misuse	Co-occurring AOD use and mental health issues	Psychological interventions: BI, MI, CBT	None	Not reported	2

Overall review characteristics

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				depressive or anxiety disorders are effective						
Barnett et al. 2012	Systematic review	1 November 2011–15 January 2012	42 13,107	To 1) update existing reviews with recently published adolescent MI interventions; 2) review the ability of different intervention formats to influence outcomes; 3) review the ability of different intervention designs (e.g. feedback or adjunct treatment) to influence outcomes; and 4) explore possible underlying theory-based mechanisms of change	Participants with a mean age of 18.5 years old	Adolescents	MI	Studies used various modalities such as face-to-face, telephone only, face-to-face telephone, and other modality combinations or comparisons. Delivered in either group, individual, or a combination of group and individual formats	Telephone-based; face-to-face (inpatient/outpatient); school-based; emergency department	2
Batastini et al. 2016	Systematic review and meta-analysis	2000–2014	5 (plus 3 reviewed qualitatively) 342	To quantitatively summarise all identified empirical evaluations of tele psychological services that involve videoconferencing equipment (i.e. technology with audio	Adults	Criminal justice population	Not reported	Telehealth intervention	Criminal Justice, client home, outpatient AOD clinic, medical facility, psychiatric facility	3

Overall review characteristics

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				and visual inputs and outputs) and criminal justice-involved or AOD clients						
Beck et al. 2017	Systematic review	First available–April 2016	12 7,655	To explore whether SMART Recovery attendance results in changes in addiction severity for people with current or past problematic AOD use, and role of therapeutic engagement in these changes	Adults attending SMART Recovery with current or past problematic AOD use (alcohol and polydrug most common)	None	SMART Recovery group format (of any frequency or intensity)	Digital delivery (online SMART interventions)	Community, rehabilitation, treatment, correctional facilities	1 & 3
Bekkering et al. 2016	Systematic review	Not reported	12 6,053	To assess the effectiveness and potential side effects of self-help groups in alcohol- and/or drug-misusing adolescents	Adolescents ages 12–18 years. Studies assessing a few younger or older patients were also included. It was assumed that the inclusion of these subjects would not lead to substantial bias in the results. The majority of participants, however, needed to be between 12 and 18 years	Adolescents	Self-help interventions (incl. AA, and NA, and non-12-step-based groups)	None	Outpatient, inpatient (not specified)	2
Bender et al. 2011	Meta-analysis	1960–2008	15 1,559	This meta-analytic review assesses the effectiveness of AOD interventions to reduce	Adolescents between 12 and 19 years of age	Adolescents	Individual interventions: MI. Family interventions: Brief Strategic Family Therapy, Multisystemic	Individual or family interventions	Not reported	2

Overall review characteristics

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				adolescent cannabis use			Therapy, Multidimensional Family Therapy, Parent Coping Skills Training, Functional Family Therapy, and Integrated Family and Cognitive Behavioral Therapy			
Beyer et al. 2019	Review	First available–September 2017	69 33,642	To update evidence on effectiveness of BI to reduce problematic alcohol use in primary care setting	Young people and adults (12 years +) presenting to primary care (for non-AOD treatment) and screened positive for problematic alcohol use	Adolescents and young adults	BI (counselling or advice based)	None	Primary care (incl. GP and emergency departments)	1 & 2
Bhatia et al. 2015	Systematic review	First available–January 2007	13 6,230	To update the review by Moy et al (2011) in order to uncover advances (published since Moy et al) in the treatment of problematic AOD use among older adults	Adults over the age of 50 years	Older adults	MI; BIs; counselling; self-help	None	Primary care and community-based centres, free standing smoking clinic, teaching hospital and general practice, health centre, general practice and a community pharmacy	2
Boumparis et al. 2019a	Systematic review and meta-analysis	First available–October 2018	30 5,195	To assess the effectiveness of digital prevention and treatment interventions	Age 12–40 primarily (1 adolescent study) with a mix of self-reported vs psychometrically	None	MI, Personalised normative feedback, CBT, BIs, Solution focused approaches,	Internet or computer based digital interventions	Clinical, University, in-community, online	3

Overall review characteristics

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				in reducing Cannabis use at post-treatment and follow-up in comparison to control conditions	screened cannabis problem		community reinforcement approach			
Boumparis et al. 2019b	Review	2016–2019	25 8,773	To examine the literature on digital interventions for alcohol and substance use disorders	Not provided	Post-partum women; Young people	Personalised normative feedback, BIs, CBT, integrated therapeutic principles, community reinforcement approach, MI, ecological momentary assessment	Internet or computer based digital interventions	Community, workplace, emergency department, outpatient, Primary care, Veterans affairs, Foster care, Mental Health	3
Boumparis et al. 2017	Meta-analysis	First available–January 2016	17 2,836	To investigate the effectiveness of internet interventions in decreasing the usage of illicit substances	Adults who use at least one illicit substance	None	CRA, CBT, MI, CM, BI, Cognitive Remediation,	Internet or computer based digital interventions	Clinical (incl. outpatient, hospital, residential centre), in-community	3
Budney et al. 2010	Review	1,987 onwards	11 Not reported	To review the evidence on psychosocial treatments for users of cannabis	Adolescents and adults who are being treated for problematic cannabis use	Adolescents	CBT, MET, MET/CBT, CM	None	Outpatient (not specified)	1 & 2

Overall review characteristics

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Cahill et al. 2010	Cochrane systematic review	First available–2018	41 >33,000	To test the effectiveness of stage-based interventions in helping smokers to quit	Smokers, of any age, race or gender	None	Stage based design: personalised feedback, individual counselling or brief advice, interactive computer games, telephone counselling, training in the stage of change model for smoking cessation, stage-based self-help materials	Staged based interventions	Population based, outpatient clinics, antenatal clinics, hospital wards, general practice, education	3
Carney & Myers 2012	Systematic review & meta-analysis	Not reported	9 1,895	To summarise the evidence and assess the effectiveness of early-interventions for substance-using adolescents at risk for delinquency and involvement in crime	Substance using adolescents (13–19 years)	Adolescents	MI; brief MET; brief MI	None	School-based, community centres, emergency department, juvenile correctional centre, youth centre	2
Carson-Chahhoud et al. 2019	Cochrane systematic review	First available–January 2019	7 1,774	To assess the effectiveness of interventions delivered by community pharmacy personnel to assist people to stop smoking, with or without concurrent use of pharmacotherapy	Current tobacco smokers who were motivated to change their behaviour	None	Interventions delivered by pharmacists that included a behavioural component	Pharmacist-delivered	Pharmacies	3

Overall review characteristics

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Carson et al. 2012	Systematic review	April 2011 issue of the Tobacco Addiction specialised Register	4 1,201	To evaluate the effectiveness of smoking cessation interventions in Indigenous populations and to summarise these approaches for future cessation programmes and research	Participants were **young people and adults of any age and either gender, who were Indigenous to their country** and were active smokers participating in a smoking cessation study	Indigenous people	Cognitive and behavioural therapies, (including CBT, counselling, support groups, self-help, seminars, motivational lectures)	None	Mobile-based (text messages); clinic-based	2
Cavicchioli et al. 2018	Meta-analysis	First available–August 2017	37 3,531	To examine if and to what extent mindfulness-based interventions increase the effectiveness of usual 'active' interventions for treatment of AUD and DUD	People admitted to therapeutic programs for AUD and DUD	Co-occurring AOD use and mental health issues	Adjunctive MBIs (i.e., ACT, MBRP, MBSR) with standard interventions (e.g., 12-step facilitation, CBT, individual counselling, psycho-education)	None	Inpatient, specialist	1 & 2
Chamberlain et al. 2018	Systematic review	13 November 2015 issue of the Cochrane Pregnancy and Childbirth Group's Trials Register	102 >28,000	To identify whether psychosocial interventions can support women to stop smoking in pregnancy. To compare the effectiveness of the main psychosocial intervention strategies in supporting women to stop smoking in pregnancy (i.e. counselling, health	1. Women who are currently smoking or have recently quit smoking and are pregnant, in any care setting 2. Women who are currently smoking or have recently quit smoking and are seeking a pre-pregnancy consultation	Pregnant women	Counselling; health education; feedback; social support from peers and partners; financial incentive	None	Public hospitals; community antenatal clinics	2

Overall review characteristics

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				education, feedback, social support, incentives, exercise)						
Chatters et al. 2016	Systematic review	First available to February 2014	25 7,938	To assess the effectiveness of psychological and psychosocial interventions on cannabis cessation	Young people and adults (16 years +) with cannabis use issues or diagnosed dependence	None	CBT, CM, psychotherapy, MI, BMI, telephone or web-based CBT/counselling	Digital, telephone delivery (telephone or web-based counselling/CBT)	In-community volunteers or referral.	1 & 3
Cleary et al. 2009	Systematic review	January 1990–February 2008	54 11,734	To assess the current evidence for the efficacy of psychosocial interventions for reducing substance use, as well as improving mental state and encouraging treatment retention, among people with dual diagnosis	People with a severe mental illness (e.g. schizophrenia, schizoaffective disorder, bipolar disorder or major depression) and substance misuse	People with co-occurring severe mental illness and substance misuse.	Studies were categorized into the following: CBT, MI, combined CBT and MI, group therapies, integrated Assertive Community Treatment (ACT), intensive case management, residential programmes, CM and forensic settings	**CBT**: individual or group format. **MI**: individual or group format. Group therapies for dual diagnosis	Outpatient and inpatient (not specified), jail or court	2
Darker et al. 2015	Cochrane systematic review & meta-analysis	First available–December 2014	25 575	To assess the effectiveness of psychosocial interventions in people with harmful benzodiazepine use	Young people and adults (15 years +) with harmful benzodiazepine use, who are opiate dependent or not opiate dependent	None	CBT, MI, letters, relaxation-oriented techniques, e-counselling, GP advice	None	Outpatient, primary care (GP)	1

Overall review characteristics

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Davis et al. 2017	Meta-Analysis	1 January 1983–31 December 2015	50 14,489	To experimental effects for emerging adults (EAs) in noncollege settings (e.g. primarily not-for profit settings), and tests potential moderators of prevention and treatment (PT) outcomes	Emerging adults between the age of 18 and 25	Young adults (18–25 years old)	CBT, MI	None	Non-college settings (primarily non-for-profit)	2
Davis et al. 2015	Meta-analysis	First available to March 2013	10 212	To assess the effectiveness of behavioural interventions on problematic cannabis use	People who are treatment-seeking for problematic cannabis use	None	CBT, CM, MET, RP, CM	Technology-based interventions, Group treatment, Individual therapy	Community-based, primary care	1 & 3
De Crescenzo et al. 2018	Systematic review & network meta-analysis	First available–April 2018	50 6,962	To assess the comparative effectiveness of psychosocial interventions for the treatment of people with cocaine and/or amphetamine addiction	Adults with diagnosed cocaine and/or amphetamine use disorders	None	CBT, CM, 12-step, CRA, supportive-expressive psychodynamic therapy, meditation-based techniques, non-contingent rewards	None	Outpatient (not specified)	1
de Paula Gerbara et al. 2013	Systematic review	2006–2011	36 Not reported	To assess the effectiveness of BIs for reducing problematic	Women with problematic use of alcohol	Pregnant women, postpartum women	BI	None	Primary care, inpatient	1 & 2

Overall review characteristics

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				alcohol consumption among women						
De Souza et al. 2015	Systematic review	First available–April 2014	13 1,115	To assess the effectiveness of mindfulness-based interventions for smoking cessation	Adults who smoke tobacco	Young adults; people with mild intellectual disabilities	MBIs (incl., Mindfulness training, body scan, MBSR)	None	General population/community-based, University, Hospital staff	1 & 2
Deady et al. 2014	Systematic review	1994–March 2012	22 Not reported	(1) identify published studies evaluating interventions aimed at improving depression and problematic alcohol use outcomes in young people, with these co-occurring conditions; (2) describe and critique the methodology of identified studies; and (3) pinpoint opportunities for future intervention	Young people with co-occurring substance use and depression	Young people with co-occurring AOD use issues and depression	CBT, MI, MET,	Individual or family interventions	Outpatient: university-affiliated clinics or research centres	2
Dedert et al. 2015	Systematic review	January 2000–March 2015	28 (14 adult trials, 14 college) 2,695 (adult trials)	To characterise treatment intensity and systematically review the evidence for efficacy of e-interventions, relative to controls, for reducing alcohol consumption and	Adults aged ≥18 y with alcohol misuse (e.g. positive alcohol screen; KQ 2), at high risk for AUD, or with diagnosis of AUD (KQ 3)	None	Intervention must be a computer-based therapy adhering to evidence-based treatment principles and providing individually delivered treatment for alcohol misuse by CD-ROM, Web-based platform,	Internet or computer based digital interventions	Not reported	3

Overall review characteristics

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				alcohol-related impairment in adults and college students			IVR, mobile phones, or in-home electronic devices (e.g., Health Buddy [Bosch Healthcare]) and may be combined with various levels of supplementary human support. Seventeen trials were 'minimal' support (level 1) interventions that used no human support, 8 used 'low' non-counselling support (level 2), and 3 included 'moderate or high' (level 3) counselling support			
Diestelkamp et al. 2016	Systematic review	First available– 20 October 2014	7 1,125	To provide an overview over the effectiveness, feasibility and current practice of BI delivery to adolescent and young adult ED patients following alcohol-related events in Europe	Study participants are aged between 12 and 25 years and are treated in an emergency care setting (inpatient or outpatient) following an alcohol-related event	Adolescents and young adults	BI	Intervention delivered in person	Inpatient, or outpatient (emergency department)	2
Donoghue et al. 2014	Systematic review & meta-analysis	First available– May 2013	23 10,142	To assess the effectiveness of electronic screening and BI (eSBI) for	Adults with problematic alcohol use (non-dependence)	None	eSBI, eSBI + following adaptations: gender non-specific, gender specific, intervention w/w'out normative feedback, personalisation brief	Digital delivery	General population/community-based, University	1 & 3

Overall review characteristics

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				people with problematic alcohol			advice intervention, brief personalised feedback intervention			
Dugdale et al. 2019	Systematic review	First available–March 2019	28 14,279	To determine whether computer-based treatment programs are effective at reducing symptoms of substance misuse and mental health difficulties within adults	Adults	People with co-occurring AOD use and mental health issues	CBT, MI, Personalised Feedback, ACT, Mindfulness, Cognitive remediation, psychoeducation, self-regulation, mutual aid therapy (e.g. AA/NA)	Internet or computer based digital interventions	Not reported	3
Elzerbi et al. 2015	Systematic review & meta-analysis	2007–August 2014	28 13,025	To assess the comparative efficacy of BIs for problematic alcohol use in European versus non-European countries	Adults (18–64 years) presenting to primary care or emergency departments who screen positive for problematic alcohol use	None	BI	None	Primary care, Emergency departments	1
Engle & Macgowan 2009	Systematic review	First available–2006	12 1,751	To systematically reviews the evidence for the effectiveness of group work for adolescent AOD use	Youth aged 11–20 years	Young people	CBT+MI, supportive counselling, 12-step facilitation, CBT Family and Coping Skills, CBT, Interactional Therapy, Psychoeducation Therapy (PET), general group counselling	Group treatment	Not reported	3
Fanshawe et al. 2017	Systematic review	Cochrane Tobacco Addiction Group's Specialized	41 >13,000	To evaluate the effectiveness of strategies that help	Participants were young people, aged under 20 years, who were regular, current tobacco smokers. A regular	Young people	Counselling; BIs; MI;	Person-to-person counselling interventions; computer-	Inpatient; school- and classroom-based; health centres;	2

Overall review characteristics

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		Register in June 2017		young people to stop smoking tobacco	smoker in this review is a young person who smokes an average of at least one cigarette a week, and has done so for at least six months			based or messaging interventions; self-help materials; a combination of counselling and a pharmacological intervention	emergency department; community-based; media-based; university setting; mental health setting; recreational camps; online	
Fergie et al. 2019	Systematic review	First available–March 2018.	9 (alcohol consumption) and 6 (illicit drug)	To understand what type of behaviour change mechanisms could be useful in reducing alcohol consumption or achieving abstinence from illicit drug use during pregnancy, this review aimed to identify behaviour change techniques (BCTs), the smallest, active components of interventions that may be effective. It also aimed to establish the extent that psychosocial-based theories were used to inform intervention design	Pregnant women who consumed alcohol or used illicit drugs	Pregnant women	Counselling; MI; BI	Internet or computer based digital interventions, self-help manual, face-to-face on a one-to-one basis	Clinical (not specified)	2

Overall review characteristics

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Filges et al. 2018	Systematic review & meta-analysis	First available–October 2014	5 1,239	The specific aim of this review was to evaluate current evidence about the effects of multidimensional family therapy (MDFT) on drug abuse reduction for young people (aged 11–21 years) in treatment for nonopioid drug abuse. Further objectives of this review were to examine the moderators of drug abuse reduction effects and to examine whether MDFT works better for particular groups	Young people aged 11–21 years referred to or in treatment for using nonopioid drugs (e.g., cannabis, amphetamine, ecstasy, or cocaine)	Young people	multidimensional family therapy (MDFT); behavioural and cognitive–behavioural theory, structural and strategic family theory, family systems theory, brief strategic family therapy, functional family therapy (FFT), and family behaviour therapy	Face-to-face	Outpatient manual-based	2
Fowler et al. 2016	Systematic review	January 2004–December 2015	8 1,419	To summarise the current literature on mobile technology-based interventions among adult users of alcohol and determine the efficacy of such interventions	Adult (18+) alcohol users	None	SMS, Smart phone apps, Mobile webpage-based interventions, informed by Included Self-Determination Theory, MI, CBT, the Health Belief Model, Theory of Reasoned Action, and Information Motivation Behavior Model	Internet or computer based digital interventions	Not reported	3

Overall review characteristics

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Gates et al. 2016	Cochrane systematic review	First available–June 2015	23 4,045	To evaluate the efficacy of psychosocial interventions for cannabis use disorder (without pharmacological treatment) compared to inactive control or alternative treatment	Adults with problematic cannabis use (met diagnostic criteria for cannabis abuse/dependence, or daily users, or treatment-seeking)	None	Various; CBT, MET, MET + CBT, CM, SS, MM, Drug counselling/education	Intervention intensity	Outpatient, community-based	1 & 3
Getty et al. 2019	Meta-analysis	1995–2019	7 222	To assess the evidence for the effectiveness of mobile telephone-delivered CM interventions to promote abstinence (from drugs, alcohol and tobacco), medication adherence and treatment engagement among individuals with substance use disorders	Adults not in treatment for SUD	None	Mobile phone-based CM	Mobile phone-based	Not reported	3
Giannelli et al. 2019	Systematic review & meta-analysis	First available–March 2017	3 75	To evaluate the effectiveness of dialectal behaviour therapy versus treatment as usual or 12-step program for AOD use disorders	Adult women diagnosed with a substance use disorder	People with co-occurring AOD use and mental health issues	DBT, 12-step facilitation.	None	Mental health/other health clinics or not specified	1 & 2

Overall review characteristics

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Grace 2017	Narrative review	Not reported	89 Not reported	To review research on the effectiveness of interventions designed to assist Drug Using Women Offenders in their recovery from drug use and desistance from offending, to identify gaps in that research, and to point to possible directions for future studies	Women Offenders	Women Offenders	Not reported	None	Not reported	2
Grant et al. 2017	Systematic review & meta-analysis	2000 onwards	9 901	To evaluate the effectiveness of Mindfulness-based Relapse Prevention for SUDs	Adults with problematic alcohol, opioid, stimulant and/or cannabis use disorders	None	MBRP (as monotherapy or as adjunctive treatment)	None	Specialist AOD outpatient; n=1 in prison	1
Hadjistavropoulos et al. 2019	Systematic review & meta-analysis	1980– Jan 2019	14 11,170	To provide an overview of characteristics, program content and outcomes among published studies on ICBT for alcohol misuse	Adults	None	Internet Delivered CBT (ICBT) - Self-guided and clinician guided	Internet or computer based digital interventions	General population, Specialist AOD use clinics, veterans, workplace	3
Hai et al. 2019	Systematic review & meta-analysis	First available–December 2018	15 3,488	To review existing research evidence from randomised controlled trials (RCTs) on the efficacy	Adult women of childbearing age (18–45 years old)	Childbearing age women	Mixed - MI, psychoeducation, assessment and personalised feedback based typically	Technology based interventions	Healthcare emergency department	3

Overall review characteristics

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				of TBIs in preventing and reducing alcohol and illicit drug use among childbearing-aged women						
Halladay et al. 2019	Systematic review & meta-analysis	Not reported	26 6,318	The research question for this review is as follows: In youth aged 15–24, what is the content and effect of existing BIs (1–2 sessions) for cannabis use on (a) cannabis-related outcomes, (b) other substance use, (c) help-seeking behaviours, (d) mental health and well-being, and (e) academic and occupational outcomes? Specifically, our aims are as follows: 1) Qualitatively summarise the content and delivery methods of existing BIs cannabis use 2) Summarise and evaluate the quality of existing evidence of cannabis BI for outcomes including (a) cannabis related	Target population: emerging adults (i.e. 15–24 years of age) including individuals both in and outside school	Young people	BI	Various: in person, online, over the phone	Not reported	2

Overall review characteristics

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				outcomes, (b) other substance use, (c) mental health and well-being, and (d) academic and occupational outcomes 3) Quantitatively synthesise primary studies 4) Determine key components and delivery methods of successful BIs to assist in identifying the ingredients for a gold standard cannabis BI 5) Present an evidence map of BIs for cannabis use across developmental age groups to synthesise existing evidence in a user-friendly format and identify developmental age-specific gaps in the literature						
Hartnett et al. 2017	Meta-analysis	First available– 17 April 2015	14 1,674	To provide a comprehensive meta-analysis (CMA) of the effectiveness of Functional Family Therapy (FFT) for adolescent	Adolescents with co-occurring disruptive behaviour and substance use disorders	Adolescents	FFT	None	Not reported	2

Overall review characteristics

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				behavioural and AOD use issues						
Hedman et al. 2012	Systematic review	First available– June 2012	103 total (n=2 for AOD) 1,969	To determine the applications, clinical efficacy, and cost-effectiveness of internet-based CBT	Not reported	None	CBT	Internet or computer based digital interventions	Not reported	3
Hesse 2009	Meta-analysis	Not reported	9	To assess the evidence on the effect of integrated psychosocial treatment on co-occurring substance use and mental health disorders (depression and/or anxiety)	Co-occurring substance use and anxiety or depression	People with co-occurring AOD use issues and anxiety or depression	Self-examination, CBT, behavioural intervention, psychotherapy	None	Not reported	2
Hettema & Hendricks 2010	Meta-analysis	First available– June 2008	31 8,165	To examine the effectiveness of MI for smoking cessation	Adolescents and adults who smoke	Adolescents, pregnant women	MI +/- another intervention (feedback, educational booklet etc)	None	In-community/general population, primary care (GP), University, residential care	1 & 2
Hides et al. 2019	Systematic review & meta-analysis	First available– 25 February 2019	7 608	To assess the efficacy of psychological interventions delivered alone or in combination with pharmacotherapy for people diagnosed with	Individuals (adults and adolescents) with co-occurring Diagnostic and Statistical Manual (DSM) or International Classification of Diseases (ICD)	People with co-occurring AOD use and mental health issues	CBT +/ - MI, Cognitive therapy, Behaviour therapy, CM, ACT, DBT, IPT	None	Various (incl. outpatient, correctional facilities)	2

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
				comorbid depression and substance use disorders	depression and substance use disorder (excluding nicotine) derived using a structured clinical interview were included. Where possible, those with psychosis, bipolar disorder and intellectual disability were excluded as these individuals form distinct clinical groups with specific needs					
Hogue et al. 2018	Review	2014– 2017	11 1,829	To update the evidence base on outpatient behavioural treatments for adolescent substance use (ASU) since publication of the previous review completed for this journal by Hogue, Henderson, Ozechowski, and Robbins (2014)	Adolescents (ages 12–19) who used alcohol or illicit drugs at least once within the prior 30 days were the targets of intervention	Adolescents	CBT, MI/MET, Ecological Family-Based Treatment	Clinical practitioners	Outpatient: healthcare, school, court	2
Hunt et al. 2019	Meta-analysis	First available–2 May 2018	41 4,024	To assess the effectiveness of psychosocial interventions for reduction in substance use in people with a serious mental illness	Individuals with co-occurring mental illness and substance use. People with mental illness were included if they had been diagnosed with a severe	People with co-occurring AOD use and mental health issues	CBT, MI, CM	None	Hospital, community and prison	2

Overall review characteristics

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				compared with standard care	mental illness (for example, mixed patient populations with schizophrenia, bipolar disorder, major depression and other psychosis) and concurrent problem of substance misuse					
Jaehne et al. 2012	Systematic review	1966–2011	21 Not reported	To assess whether psychosocial interventions with or without medication in the treatment of alcohol use disorders and tobacco dependency that involve a stepped care component are effective, in comparison to interventions that do not involve a stepped care component	Not reported	None	BI, CBT, group counselling, behavioural change counselling, self-guided interventions, telephone counselling	Stepped-care	Hospital, university, worksite, primary care, outpatient substance use treatment	3
Jensen et al. 2011	Meta-analysis	Not reported	21 5,471	To quantitatively evaluate the effectiveness of MI interventions for adolescent substance use behaviour change	Adolescents or adolescents and parents rather than parents or guardians alone	Adolescents	MI	None	Not reported.	2

Overall review characteristics

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Joseph et al. 2014	Systematic review	1995–2012	11 2,676	To determine the efficacy of nurse-delivered BIs for problematic alcohol use	People attending healthcare services and screened positive for problematic alcohol use (non-dependent)	None	Nurse-delivered BI	None	Primary care (GP), hospital inpatient, emergency department	1
Kaner et al. 2018	Cochrane systematic review	First available–September 2017	69 33,642	To assess the effectiveness of screening and BIs for problematic alcohol use in general practice and emergency care settings	People attending healthcare services and screened positive for problematic alcohol use (non-dependent nor seeking alcohol treatment)	None	BI (and screening)	None	Primary care (GP), emergency department	1
Karapareddy 2019	Systematic review & meta-analysis	2004–2015	12 Not reported	To determine whether existing service models are effective in treating combined mental health and substance use disorders and to examine whether an integrated model of service delivery should be recommended	Adults, adolescents	None	Not reported.	Integrated Vs. standard care	Not reported	3
Kelly et al. 2018	Systematic review & meta-analysis	2000–November 2016	13 5,654	To identify: (1) Interventions to prevent or reduce excessive alcohol consumption; (2) Interventions as (1) also reporting	Older people aged 55 and over, living in the community; including healthy participants; with pre-conditions for later ill health such as high blood pressure, high cholesterol, overweight	Older adults	Interventions that aimed to prevent or reduce excessive alcohol consumption. (including BIs)	None	Primary care (not specified)	2

Overall review characteristics

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				cognitive or dementia outcomes	or obese, impaired cognitive function, functional limitations; on medication that did not affect outcomes; disadvantaged and minority groups. Studies primarily focused on populations with previous ill health, e.g. stroke, coronary heart disease and mental health conditions were excluded					
Klimas et al. 2018	Cochrane systematic review	First available–August 2017	7 825	To assess the effectiveness of psychosocial interventions (versus another psychosocial treatment or treatment as usual) in adults who inject illicit drugs and have concurrent alcohol use issues	Adults who use injectable illicit drugs and have concurrent problematic alcohol use	None	Cognitive behavioural coping skills training, 12-step facilitation, BI, MI, BMI	None	Specialist outpatient clinics, primary care	1
Kock et al. 2019	Systematic review & meta-analysis	First available–August 2019	42 26,168	To assess whether the effectiveness of individual-level smoking cessation interventions for disadvantaged groups was moderated by socioeconomic position tailoring	Socio-economically disadvantaged people	None	Various - incl. pharmacotherapy	Socio-economic position tailored interventions	Not reported in full	3

Overall review characteristics

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Kohler & Hofmann 2015	Systematic review & meta-analysis	First available– 24 September 2013	6 1,433	We investigate the effect of MI, delivered in a BI during an emergency care contact, on the alcohol consumption of young people who screen positively for present or previous risky alcohol consumption	Young people between the ages of 13–25 years	Young people	MI	None	Emergency departments	2
Kotsen et al. 2019	Narrative review	January 2000 –July 2017	11 25,372	To determine whether group treatments have yielded similar quit rates compared to individual treatment and to provide recommendations for best practices and policy	Adults	None	Intensive Group Tobacco Treatment: Group treatment was defined as occurring in a real-world clinical practice or workplace setting (i.e., not in the context of a research study), led by a professionally trained clinician, and offered weekly for at least several weeks to groups of more than two participants	Group treatment	Clinical, workplace	3
Lancaster & Stead 2017	Cochrane systematic review	First available– May 2016	49 19,000 (approx)	To assess the effectiveness of individual counselling (versus no treatment or another minimal contact treatment) to	Any people who smoke (except pregnant women)	None	Individual counselling, more or less intensive variants	None	Primary-care and community-based clinic; inpatient; residential; general population	1

Overall review characteristics

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				promote smoking cessation					volunteers; workplace	
Landy et al. 2016	Systematic review	First available–June 2014	34 6,000 (approx)	To assess the effectiveness of BIs for problematic alcohol use in adults in emergency departments	Adults presenting to emergency departments screened positive for problematic alcohol use	None	BI	None	Emergency departments	1
Lee, Cameron et al. 2015	Systematic review	1999–2014	10 427 (approx)	To build upon previous works by undertaking a systematic review on effective treatment options for co-occurring substance use disorder and borderline personality disorder to examine effective treatments for this group	Individuals with co-occurring substance use and borderline personality disorders	People with co-occurring AOD use and mental health issues	DBT, dynamic deconstructive psychotherapy (DDP), dual-focused schema therapy (DFST)	None	Inpatient and outpatient (not specified)	2
Lee, An et al. 2015	Meta-analysis	First available–May 2015	10 1,386	To evaluate the comparative effectiveness of Acceptance and Commitment Therapy versus other active treatments on substance use abstinence	People who are treatment-seeking for substance use disorders (e.g., tobacco, amphetamines, opioids, polydrug use)	None	ACT	None	Specialist clinic, residential program, prison, online/phone	1

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Lenaerts et al. 2014	Systematic review of RCTs	First available–February 2013	6 1,479	To identify effective continuing care interventions for patients with AUDs	Adults with an AUD receiving continuing care in outpatient setting	None	Supportive phone calls, behavioural marital therapy, interactional couples' therapy, CBT, MET, 12-step facilitation, RP incl. early warning signs MP, community nurse follow-up	Continuing care (aftercare) Individual and group	Outpatient continuing care settings (following prior intensive treatment in inpatient or outpatient settings)	3
Leske et al. 2016	Systematic review	2000–2015	16 2,123	To systematically review the evidence-base for the effectiveness of culturally unadapted, culturally adapted and culture-based interventions for Indigenous adults with mental or substance use disorders	Indigenous Adults	Indigenous people	Psychotherapy, assessment and personalised feedback, 12-step facilitation, MET, CBT, Narrative Therapy, CRA	Client characteristics (culturally adapted treatments)	Healthcare settings, Aboriginal primary health service, University, outpatient clinics, mental health service, correctional facility	3
Li et al. 2016	Systematic review & meta-analysis	January 1990–April 2015	10 1,466	To assess evidence for MI effectiveness to reduce or cease substance use in adolescents	Adolescents	Adolescents	MI	None	School, community, outpatient clinic, juvenile correction centre	2
Li et al. 2017	Systematic review & meta-analysis	First available–December 2015	42 Not reported	To evaluate the effects of mindfulness-based treatments on problematic AOD use	Adolescents and adults with problematic AOD use	None	MBI (e.g., MBSR, MBRP, MM, Mindfulness Training)	None	Residential rehabilitation; jail-based rehabilitation	1

Overall review characteristics

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									facility; in laboratory	
Lin et al. 2019	Systematic review	January 1998–October 2018	13 5,546	To identify and summarise studies examining the effectiveness of telemedicine interventions to deliver treatment for patients with substance use disorders	Adults	None	Psychotherapy not further defined, psychoeducation, counselling not further defined	Telepsychology intervention	Rural populations, criminal justice settings	3
Lindson et al. 2019	Cochrane systematic review	First available–August 2018	37 15,000 (approx)	To evaluate the effectiveness of MI to promote smoking cessation, compared to no treatment, in addition to another smoking cessation treatment, or another smoking cessation treatment. Secondly to compare the effectiveness of more versus less intensive MI interventions.	People who smoke tobacco	Adolescents and young people, people with co-occurring AOD use and mental health issues.	MI, MET	None	General population/community-based, Primary care, specialist inpatient and outpatient, telephone (Quitline)	1 & 2

Overall review characteristics

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Livingstone-Banks et al. 2019a	Cochrane systematic review	First available–February 2018	77 67,285	To evaluate whether specific Relapse Prevention interventions are effective at reducing rates of smoking re-uptake amongst recent quitters	Adults who have recently quit smoking using a cessation intervention	Pregnant women, postpartum women; hospital inpatients	Various specific RP interventions delivered after another cessation intervention (e.g., CBT, MI, support group, behavioural support-based) +/- pharmacotherapy	Various; varied face-to-face intensity; support via phone, computer, print-based materials; combining RP with pharmacotherapy	Specialist outpatient clinic; pre-natal/antenatal clinic; community-based health service; in-community; home-based; hospital inpatient; digital/online; workplace	1, 2 & 3
Livingstone-Banks et al. 2019b	Cochrane systematic review	First available–March 2018	75 90,705	1) To determine the effectiveness of different forms of structured, print-based self-help materials compared with no treatment and with other minimal contact strategies. 2) To determine the comparative effectiveness of different components and characteristics of print-based self-help, such as computer-generated feedback, additional materials, tailoring of materials to individuals, and	Adult smokers (excluding pregnant smokers)	None	The content and format of the self-help programs varied. The most frequently used materials were the American Lung Association (ALA) cessation manual: Freedom from Smoking in 20 days, and the maintenance manual: A Lifetime of Freedom from Smoking. Most other programmes were not named or described fully	Client characteristics	Various: primarily community, population-based Primary care	3

Overall review characteristics

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				targeting of materials at specific groups						
Lo Coco et al. 2019	Systematic review & meta-analyses of RCTs	1990– 2018	31 (plus 2 follow-up reports) 3,951	To investigate efficacy of group therapy for SUD in adults	Adults 18+ with a SUD	None	Group therapy. Approaches: Behavioural group therapy, mindfulness-based group therapy & relapse prevention, CBT group therapy & relapse prevention, ACT, multiple couples' therapy, DBT, MI, MET	Group treatment	Inpatient and outpatient (incl. day treatment program)	3
Luty 2015	Review	2005 onwards	Not reported	To appraise the effects of the unique characteristics of each type of psychotherapy for addiction– those that distinguish them from other forms	Not reported	None	AA and 12-step facilitation, MI, CBT, CM, CRA, BI, BCT, social behaviour and network therapy	Brief vs. long interventions, Couples interventions	Not reported.	3
Magill et al. 2019	Meta-analysis	First available– June 2018	30	To evaluate the effectiveness of CBT compared to minimal therapy, non-specific therapy, and specific therapy on alcohol/other drug use disorders	Adults diagnosed with AOD use disorders	None	CBT	None	Specialist AOD use and mental health clinics, in community, other (university, criminal justice, other medical)	1
Martin & Rehm 2012	Review	Not reported	Not reported Not reported	To review evidence of the effectiveness of psychosocial	Adults	None	BIs, MET/MI, CRA, behavioural self-control training, behaviour	Client characteristic	Not reported.	3

Overall review characteristics

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				modalities and the impact of concurrent drug use and mental health disorders on their effectiveness, along with the role of client–therapist and client–treatment interactions in treatment			contracting, social skills training, and BCT, CBT	s, therapist factors		
Martinez-Vispo et al. 2018.	Systematic review	January 2000–May 2018	8 600	To examine the effects of behavioural activation on AOD use, abstinence, or relapse, and on depression symptom outcomes in individuals with AOD use depression	Adults with AODs and depression	People with co-occurring AOD use issues and depression	BA	None	Community-based clinics, residential, hospital	1 & 2
McCambridge & Jenkins 2008	Systematic review & meta-analysis	1995– 2005	7 2,293	To explore whether BIs focussed on problematic alcohol use also reduce cigarette smoking	Adults who smoke tobacco	None	BI	None	Primary care, community-based, emergency department, general hospitals	1
McQueen et al. 2011	Cochrane systematic review	First available–April 2011	14 4,041	To examine the effectiveness of BIs for problematic alcohol use in individuals with heavy alcohol use	Young people and adults (16 years +) who are heavy alcohol users admitted to general hospital inpatient units	None	BI	None	General hospital inpatient units	1

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				admitted to general hospital inpatient units	(not for alcohol treatment)					
Merz et al. 2015	Systematic review	First available–March 2014	4 618	To identify evidence from randomised trials of interventions to reduce alcohol use and prevent alcohol related consequences in young adults (18–24 years old) admitted to the emergency department following acute alcohol intoxication	Young adults between the ages of 18- to 24-years	Young people	BI	None	Hospital	2
Minozzi et al. 2016	Cochrane systematic review	First available–November 2015	52 6,923	To examine the effectiveness of psychosocial interventions in adults with problematic psychostimulant use and/or dependence	Adults with psychostimulant misuse and/or dependence	None	CBT, CM, MI, IPT, psychodynamic therapy, 12-step facilitation	None	Outpatient (not specified)	1
Newbury-Birch et al. 2016	Rapid systematic review	2000–2014	17 >14,400	To review the evidence of alcohol use disorders within the different stages of the criminal justice system in the UK	Individuals at various stages in the criminal justice system	Individuals within the criminal justice system	BIs	Face-to-face BI	Criminal justice/correctional settings such as magistrates court, prison, police custody suites, probation	2

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Newbury-Birch et al. 2018	Systematic review	First available–August 2017	9 2,435	To systematically review the literature on brief alcohol interventions for incarcerated individuals to ascertain the efficacy or effectiveness in making changes to either consumption of alcohol or other social outcomes	Individuals with alcohol use disorders and in the criminal justice system	Incarcerated individuals	MI, CBT, Lifeline counselling (reality therapy), AA, NA, family counselling, RP group treatment	One-on-one sessions with practitioners (e.g. trained facilitators, social worker, or pyschologist)	Criminal justice/correctional setting (including remand)	2
Parmar & Sarkar 2017	Review	Not reported	27 8,735 (+ 22.7% of n ~460,000 cohort)	To review the effectiveness of BIs for cannabis use disorders.	Young people and adults with problematic cannabis use	Adolescents, Internet or computer based digital interventions	BI	Internet or computer based digital interventions, telephone-based delivery	Various; primary care (community-based and GP), emergency departments, university healthcare clinics, schools, specialist AOD clinics, psychiatric inpatient facilities	1 & 2
Penzenstadler et al. 2017	Systematic review	January 1996–May 2016	14 7,159	To assess the effectiveness of case management for patients with AOD use disorders	Adults 18+ with a SUD	None	Case management.	Case management	Community AOD outpatient.	3

Overall review characteristics

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Perry et al. 2019a	Meta-analysis	First available–February 2019	13 2,560	To assess the effectiveness of interventions for female drug-using offenders in reducing criminal activity, or drug use, or both	Female drug-using offenders, regardless of age or ethnicity	Individuals within the criminal justice system	Any psychosocial intervention (e.g. therapeutic community programme, case management, CBT, interpersonal psychotherapy and MI)	Clinicians, or psychologist. Individual therapy, group therapy	Prison, community	2
Perry et al. 2019b	Meta-analysis	First available–February 2019	13 2,606	To assess the effectiveness of interventions for drug-using offenders with co-occurring mental health problems in reducing criminal activity or drug use, or both	Drug-using offenders with co-occurring mental health problems	Individuals within the criminal justice system	Psychosocial intervention (therapeutic community intervention, case management, CBT, IPT, MI, MST)	Clinicians, or psychologist. Individual therapy, group therapy	Special hospitals, prisons, or the community or were diverted from court or placed on arrest referral schemes for treatment	2
Power et al. 2008	Meta-analysis	First available–May 2007	12 754	To examine the effectiveness of Behavioural Couples Therapy in the treatment of AOD use disorders	Adult couples with an individual being treated for AOD use disorder	None	BCT (as standalone intervention in combination with another active treatment)	None	Not reported (RCT study sites)	1
Riper et al. 2014	Meta-analysis	First available–June 2013	12 1,721	To review evidence on the effectiveness of combining cognitive-behavioural therapy (CBT) and MI to treat comorbid clinical and subclinical alcohol use disorder (AUD) and	Individuals with co-occurring clinical and subclinical alcohol use disorder and major depression	People with co-occurring AOD use and mental health issues	CBT and MI	None	Outpatient clinic, other healthcare	2

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				major depression (MDD) and estimate the effect of this compared with usual care						
Riper et al. 2018	Meta-analysis	First available– 31 December 2016	19 14,198	To investigate effectiveness and moderators of treatment outcomes in internet-based interventions for adult problem drinking (iAIs)	Adults 18+ who exceeded guidelines for low-risk drinking	None	Various; CBT approaches; Psychoeducation, personalised normative feedback, transtheoretical model, behavioural change counselling, MI	Internet or computer based digital interventions, guided vs unguided	Community, workplace, primary care (GP, emergency department)	3
Roberts et al. 2016	Cochrane systematic review	First available– 11 March 2015	14 1,506	To determine the efficacy of psychological therapies aimed at treating traumatic stress symptoms, substance misuse symptoms, or both in people with comorbid PTSD and AOD use disorders in comparison with control conditions (usual care, waiting-list conditions, and no treatment) and other psychological therapies	People with comorbid PTSD & AOD use disorders	People with comorbid PTSD & AOD use disorders	Trauma-focussed therapy (incl. trauma-focussed CBT or EMDR). Non-trauma focussed therapy for PTSD and/or AOD use disorders (CBT-based). Active psychosocial intervention for AOD use disorders only. Seeking Safety (non-trauma focussed coping skills approach) - individual	Integrated care	Outpatient AOD treatment settings	2 & 3

Overall review characteristics

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Rogers et al. 2017	Systematic review of meta-analyses	First available– 14 June 2016	71 meta-analyses (covering 106 RCTs of AOD interventions) Not reported	1) Discover the range of health-related topics that were addressed through internet interventions, 2) Generate a list of current websites used in the trials which demonstrated a health benefit, 3) Identify gaps in the research that may have hindered dissemination	Adult drinkers/problem drinkers, university students using alcohol, smokers, cannabis users	None	Various; CBT approaches, personalised normative feedback, goal setting	Internet or computer based digital interventions	Internet: Primarily college students	3
Rongione et al. 2011	Meta-analysis	1990–2009	20 2,837	To separately analyse alcohol and drug outcomes of school-age youth, while synthesising metanalytic results of clinical trials using a random effects model	Participants who are 18 years of age or younger	Adolescents	Counselling and psychotherapy	Counsellor or psychotherapist	Inpatient, outpatient, day treatment	2
Rooke et al. 2010	Meta-analysis	First available– January 2009	34 10,632	1) to quantify the overall effectiveness of computer-delivered interventions for the use of alcohol, tobacco and other substances and 2) to determine whether the effectiveness of treatment is	Adults 30+ or Young Adults. (Most studies were with Young Adults who were mostly college students)	None	Each study intervention coded Y/N for containing normative feedback and relapse prevention	Internet or computer based digital interventions	Home or research setting (recruited primarily from universities)	3

Overall review characteristics

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				associated with treatment characteristics (including provision of normative feedback, availability of a chat feature, inclusion of entertainment features to facilitate engagement, emphasis on relapse prevention, number of sessions, treatment location, treatment format (web or offline program), and level of therapist involvement)						
Saitz 2010	Systematic review	First available–September 2009	16 6,839	To assess the evidence for efficacy of BIs for people with alcohol dependence or very heavy drinking in primary care	Adults screening for alcohol dependence or heavy drinking in the primary care setting	None	BI (and screening)	None	Primary care, community-based, University-based healthcare clinic	1
Schepis & Rao 2008	Systematic review	First available–July 2007	16 Not reported	To review recent progress in adolescent smoking cessation research, examining both pharmacological and behavioural treatments	Adolescents who smoke	Adolescents	MI, CM, CBT	Telephone-based, Internet or computer based digital interventions	Health centre, community, school	2

Overall review characteristics

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Secades-Villa et al. 2017	Systematic review & meta-analysis	First available–September 2017	20 5,061	To evaluate the effectiveness of smoking cessation interventions for patients with current depression, to evaluate the impact of smoking cessation treatments on the symptoms of depression and to evaluate the quality of studies included	Smokers with depressive symptoms and/or a diagnosis of current major depressive disorder. The sample also included individuals with cancer, medical illnesses, pregnant women, individuals from low income levels	Smokers with current depression	Psychological interventions included mood management, CBT, counselling, MI, MET, self-help etc.	None	Hospital, research centre, home, internet, outpatient clinic, dental clinic	2
Smedslund et al. 2011	Cochrane systematic review	First available–November 2010	59 13,342	To assess the effectiveness of MI for problematic AOD use	People with AOD use disorders (abuse or dependence not misuse)	None	MI, MET (face-to-face only)	None	Not reported; emergency departments excluded	1
Smedslund et al. 2019	Systematic review	First available–May 2016	53 33,316	To assess the effectiveness of computerised BIs (CBIs) for youth (aged 15–25) defined as risky alcohol users	Adolescents 15–25yo defined as risky alcohol users	Young people (15– 25 years)	Personalised normative feedback, assessment & feedback, personalised feedback only	Internet or computer based digital interventions	Not reported	2 & 3
Snowdon et al. 2019	Systematic review	1990–March 2018	43 Not reported	This overview aims to i) identify existing systematic reviews, assess their methodological quality, describe their characteristics and ii) synthesise the findings	Young people with substance use problems	Young people	BI, BSFT, CBT, FBT, FFT, MDFT, MI, ACRA, MST	None	Outpatient and inpatient	2

Overall review characteristics

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				of the reviews rated high or moderate methodological quality, and iii) investigate what psychosocial interventions are efficacious in addressing YP's AOD use behaviours in outpatient settings and determine how they are implemented						
Spas et al. 2012	Systematic review	1979–2012	Not reported Not reported	To determine which treatment is optimal for substance-abusing adolescents with conduct problems	Substance abusing adolescents with conduct problems. Adolescents were young people between the age of 8- and 20-years	Young people (8– 20 years)	CBT, 12-step facilitation, MST, psychoeducation, MI	None	Residential (incl. criminal justice/correctional facilities or wilderness programs), healthcare settings	2
Stade et al. 2009	Systematic review	1967– August 2008	4 715	To determine the effectiveness of psychological and educational interventions to reduce alcohol consumption during pregnancy in pregnant women or women planning pregnancy	Pregnant women or women planning pregnancy (12 months before conception)	Pregnant women	Psychological and/or educational interventions during pregnancy or 12 months before conception for women planning pregnancy	None	Health clinics, general practice, in-community	2

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Stanton & Grimshaw 2013	Meta-analysis	First available–February 2013	28 >6,800	To evaluate the effectiveness of strategies that help young people to stop smoking tobacco	Young people, aged less than 20, who are regular tobacco smokers	Young people < 20 years.	Any psychosocial intervention aimed at smoking cessation in young people	None	School, college	2
Stead et al. 2016	Cochrane systematic review	First available–July 2015	53 25,000	To examine the relative effectiveness of behavioural support and pharmacotherapies on smoking cessation in different combinations and in different settings and in populations	People who smoke	None	BI (counselling and/or advice based) plus pharmacotherapy	Group treatment	Inpatient and outpatient, community volunteers	1 & 2
Stead et al. 2017	Cochrane systematic review	First available–May 2016	66 13,741	To determine the effect of group-delivered behavioural interventions in achieving long-term smoking cessation	Adult smokers (excluding pregnant women)	None	Behavioural interventions (incl. CBT, information and advice)	Group behavioural therapy	Community, primary care, workplaces. People with cardiovascular disease, diabetes, schizophrenia, people in outpatient alcohol treatment	2 & 3

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
Stockings et al. 2016	Systematic review	1 January 1990–23 April 2015	Not reported Not reported	To review the on the effectiveness of prevention, early intervention, harm reduction, and treatment of problem use in young people for tobacco, alcohol, and illicit drugs (e.g. cannabis, opioids, amphetamines, or cocaine)	Adolescents between the ages of 10 and 24 years	Young people (10– 24 years)	*Alcohol*: MET, self-help (phone/online/written), self-help interventions with peers, CBT, family-based interventions and multisystemic therapy. *Tobacco*: MET, self-help (phone, online, written), CBT, MST, family-based interventions	Phone, online, written, peers	School-based, university-based, work-based, primary care	2
Sullivan et al. 2011	Systematic review & meta-analysis	First available–March 2008	13 2,995	To establish the effectiveness of nonphysician (versus physician) delivered interventions to people with problematic alcohol use	Patients attending primary care clinics with problematic alcohol use	None	BI (counselling)	None	Primary care clinics	1
Sundstrom et al. 2017	Review of systematic reviews	2005–2015	14 Not reported	The aim of this paper is to summarise the evidence on computer-based alcohol interventions published over the last 10 years	Adults (Student and non-student)	None	Personalised normative feedback, combined treatments, RP	Internet or computer based digital interventions	Not reported	3

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
Tait et al. 2010	Systematic review	First available–February 2009	14 7,082	To review the current literature on internet-based interventions designed to target adolescents and young adults with problematic substance use	Adolescents under 25 years	Young people <25 years	Assessment and personalised feedback; information+BI+skill building feedback, personalised normative feedback, newsletters, demographics+alcohol assessment+feedback	Internet or computer based digital interventions	Online	2 & 3
Tait et al. 2013	Meta-analysis	First available–2012	10 4,125	To examine effectiveness of computer- and internet-based interventions in decreasing the frequency of cannabis use and to provide an estimate of the magnitude of that effect	Cannabis users (4 studies on adolescents 11–13/14yo 4 adolescents & adults (>17yo, >15yo, 17–19, 'mean age 25') High school students Post-partum women >18)	Adolescents; Post-partum women	Interactive family substance use prevention program, online chat with trained MI counsellor, BI+Computerised CBT, lessons about alcohol and cannabis online and by teacher, Computerised MI and computerised personalised feedback, substance use prevention program, self-regulation program	Internet or computer based digital interventions	Home, outpatient clinic, school. (Recruited from community, clinic, school, university)	2 & 3
Tanner-Smith et al. 2013	Meta-analysis	1981–2008	45 Not reported	To 1) investigate the comparative effectiveness of different types of outpatient treatment for adolescents with AOD use disorders. 2) assess the magnitude of change in AOD use	Adolescents 12–20yo with AOD abuse or dependence	Young people (12–20 years)	Behavioural therapy, FT, counselling, CBT, MET, CBT/MET, psychoeducational therapy, skills training	Group treatment Family therapy Individual therapies	Outpatient (not specified)	2 & 3

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
				for such adolescents after entry into outpatient treatment programs, 3) determine what differences in characteristics of samples, treatment programs and study methods are related to changes in AOD use						
Tanner-Smith et al. 2015a	Systematic review & meta-analysis	First available– 31 December 2012	185 Adolescents =172; young adults=1,691	To examine how much, when, for whom, and for how long brief alcohol interventions may be effective in youth populations	Young people between the ages of 11- and 25-years, and college students <30-years	Young people (11–25 years), undergraduate university students <30 years	BIs	None	School/university, primary health care clinics	2
Tanner-Smith et al. 2015b	Meta-analysis	First available– 31 December 2012	30 Not reported	To examine whether BIs for alcohol use are effective for marijuana, cocaine, or other drug use among youth populations	Young people between 11- and 25-years of age, or undergraduate college students <30-years	Young people (11– 25 years), undergraduate university students <30 year	BIs	None	School/university, primary health care clinics	2
Tanner-Smith et al. 2016	Meta-analysis	1980 onwards	190 1,677 (adolescent =145 and young	To examine the effectiveness of brief alcohol interventions for adolescents and young adults, with particular emphasis on exploring variability in	Adolescents and young adults: individuals aged 11–25	Young people (11–25 years)	BIs	Individual, group and family. Computerised and non-computerised	University or high school, emergency department, student health centre	2

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
			adults=1,532)	effects across outcome measurement characteristics						
Terplan et al. 2015	Meta-analysis	First available– 28 January 2015	14 1,298	To assess the effectiveness of psychosocial interventions for women enrolled in outpatient illicit drug treatment and to evaluate the effect of such interventions on increasing maternal and neonatal abstinence, and/or improving attendance and retention	Pregnant women enrolled in illicit drug treatment programmes for any treatment of substance abuse or dependence of any drug. Illicit drugs include illegal substances such as cannabis, heroin, cocaine, amphetamines as well as women on methadone treatment	Pregnant women enrolled in illicit drug treatment programs	CM, MI	None	Inpatient and outpatient AOD treatment facilities (either academic- or hospital-based)	2
Tirado-Munoz et al. 2018	Literature review	June 2016– January 2018	5 1,709	To update the evidence on the effectiveness of psychosocial (+/- pharmacological treatment) interventions for reducing cannabis use (risk reduction strategies)	Adolescents and adults (15+ years) with cannabis use issues	Young people (15–25 years)	Various; BI, MI, MET +/- pharmacological treatment	Therapist assisted vs online/self-guided	Primary care (GP or counsellor/psychologist), research site, online	1, 2 & 3
Torchalla et al. 2012	Meta-analysis	First available– June 2010	17 4,088	To examine the evidence of psychotherapeutic	Individuals who: (a) meet diagnostic criteria for substance abuse or	People with co-occurring AOD	Integrated psychotherapeutic treatment (IT)	None	Not reported	2

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
				integrated treatment (IT) programs for individuals with concurrent substance use disorders and trauma histories	dependence and/or be seeking SUD treatment and (b) report a history of psychological trauma and/or the presence of PTSD symptoms	use and mental health issues	comprising of CBT for PTSD in addiction treatment programs, CTPCD, DART for co-occurring disorders, Seeking Safety, SDPT, TRANSCEND, TARGET, TREM, Integrated Tobacco Cessation Treatment			
Tripodi et al. 2010	Meta-analysis	1960–2008	16 Not reported	To assess the effectiveness of AOD use interventions for their ability to reduce adolescent alcohol use	Substance using adolescents (aged 12–19 years)	Adolescents	Family based therapies, CBT, IF-CBT (integrated family+CBT) supportive counselling, assertive continuing care, active aftercare, brief MI, psychoeducation curriculum, multisystemic therapy, triple modality social learning	None	Clinic, aftercare service, community centre, residential facility, school, homeless drop-in centre, in home care	2
Tripodi & Bender 2011	Meta-analysis	1960–2010	5 Not reported	To assess the effectiveness of AOD treatment on alcohol and marijuana use for juvenile offenders based on existing quasi-experimental and experimental research, and to compare the effects of individual-based interventions to	Adolescent within the juvenile justice system, between the ages of 12–19 years	Adolescents	Multisystemic Therapy, Multidimensional Treatment Foster Care, Teaching Family, and Life Skills Training	Individual-based and family-based sessions run by clinicians, welfare professionals	Juvenile justice system, clinic, home, foster home, aftercare services, school community centres	2

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
				family-based interventions						
Ullman et al. 2012	Literature review	1990–2012	108 Not reported	To examine the differences in the efficacy of AA and other 12-step program for women compared to men	Adolescents and adults with experience attending AA or similar 12-step program for alcohol use issues	Adolescents	AA or other 12-step facilitation	Affiliation with treatment	In community, online	1, 2 & 3
van der Meer et al. 2013	Meta-analysis	First available–April 2013	49 1,949	To evaluate the effectiveness of smoking cessation interventions, with and without specific mood management components, in smokers with current or past depression	Adult smokers with current or past depression	Co-occurring smoking and depression (current or past)	Psychosocial mood management was defined as group or individual counselling, self-help or exercise, or hypnosis intended to influence negative mood and improve depression symptoms above and beyond standard smoking cessation counselling	None	Hospital outpatient, community and quit line, mental health outpatient, smoking cessation specialist clinics, university, medical centre	2
Waldron & Turner 2008	Systematic review	1998 onwards	17 2,307	To examine the findings of randomised clinical trials evaluating psychosocial treatments for	Adolescents between 12 and 19 years of age	Adolescents	Individual or group CBT, FT, MET	Therapist delivered or not identified	Outpatient (not specified)	2

Overall review characteristics

Publication reference	Study type	Years of publication covered by review	No. of studies included No. of participants	Review research aim/ objectives	Populations included	Type/s special populations reported on*	Type/s psychosocial interventions	Type/s therapeutic and/or service/care delivery models reported on*	Study/ setting	Related review question
				adolescent AOD misuse since 1998						
Yuma-Guerrero et al. 2012	Systematic review	First available–January 2011	7 Not reported	The purpose of this article is to review the evidence concerning screening, BI, and referral to treatment (SBIRT) for risky alcohol use among adolescent patients in acute care settings through a review of randomised controlled trials (RCTs)	Adolescents between 11–21 years of age	Adolescents	Screening, BI and referral to treatment	Therapist delivered; computer-based therapy	Emergency departments	2
						Instances where outcomes for special population/s are reported separately; 'none' if pooled		***Instances where process- or model-related outcome/s reported separately; 'none' if pooled***		

Appendix D—Question 1 review characteristics and quality of evidence assessment.

Question 1. ***Brief interventions***

Publication reference	**Study ref.**	**Study years** **Study design/s**	**Study location**	**Details of psychosocial intervention**	**Delivery mode/s of intervention**	**Substance type treated**	**Setting**	**Comparison/ Control**	**Outcomes**	**Results relating to question**	**Positive outcomes: General health** **Wellbeing** **Harm reduction**
Beyer et al. 2019	All included studies (n=42)	1987–2014 RCT	High income (n=38; e.g. US, UKA, Australia, Germany, Canada, Scandinavia); middle-income (n=4; Brazil, Kenya, South Africa, Thailand)	BI (counselling or advice-based)	Verbally-delivered information, advice or counselling, 1–5 sessions; extended BI (>5 sessions or total >60 mins)	Alcohol	Primary care; emergency departments	No intervention, TAU for presenting condition (not alcohol-related), minimal intervention (e.g. feedback, simple advice, written leaflet giving general health and/or alcohol-related information)	Alcohol consumption (ethanol g/wk); Number heavy drinking episodes p/w; Drinking days p/w; Drinks per drinking day; Proportion heavy drinkers; Proportion of heavy episodic drinkers	**Alcohol consumption (g/wk):** BI > Control/Comparison; effect smaller in emergency department than primary care; effect larger for advice-based than counselling-based BI; pattern of effects similar at 6 and at 12 m reporting **Number heavy drinking episodes p/w:** BI = Control/Comparison **Drinking days p/w:** BI > Control/Comparison **Drinks per drinking day:** BI = Control/Comparison **Proportion heavy drinkers**: BI > Control/Comparison **Proportion of heavy episodic drinkers:** BI > Control/Comparison	Not reported Not reported Yes

Question 1. ***Brief interventions***

Publication reference	Study ref.	Study years Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
de Paula Gerbara et al. 2013	All included studies (n=36)	2006–2011 RCT, Non-randomised clinical trials	North America; Sweden; Australia; Switzerland ; Denmark	BI	Face-to-face; digital (computerised); telephone delivered. Most single-session; sessions lasting 10–30 mins.	Alcohol	Inpatient; outpatient; University-based	Not reported	Alcohol use reductions	**Alcohol use reductions:** BI>Control/Comparison (n=6/9; women only samples); BI>Control/Comparison (n=5/7; mixed gender samples) **Alcohol use reductions by gender:** Women = Men (n=1/5); Women > Men (n=4/5)	Not reported Not reported Yes
Donoghue et al. 2014	All included studies (n=23)	2004–2012 RCT, parallel group	US, the Netherlands, Japan, Germany, Australia, New Zealand, Canada, Sweden, Denmark	eSBI or eSBI + adaptations	Electronic (computer or web-based) intervention, provide information, advice, normative or personalised feedback; 1– 4 sessions lasting 5–45 mins each	Alcohol	In-community/general population; specialist mental outpatient; University health service.	Usual care, assessment only, no intervention.	Alcohol consumption (ethanol g/wk); Number drinking episodes; Drinks p/drinking day; Drinking within drinking limits. All outcomes within study specified limits	**Alcohol consumption (ethanol g/wk):** eSBI>Control/Comparison at < 3m, 3<6m, 6<12m FU; eSBI = Control/Comparison at >12 m FU. Effects largest at <3m FU and decreased with time	Not reported Not reported Yes

Question 1. ***Brief interventions***

Publication reference	Study ref.	Study years Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Elzerbi et al. 2015	All included studies (n=20 in primary care; n=8 in emergency departments)	1987–2014 RCT	European and non-European countries (e.g. US, Australia, Thailand)	BI	Opportunistic (non-treatment seeking) screening and early intervention, 1–4 session lasting no more than 30 mins each	Alcohol	Primary care; emergency departments	Not reported	Alcohol consumption (ethanol g/wk) at 6 and 12 m FU	**Alcohol consumption (ethanol g/wk):** BI>Control/Comparison at 6m and 12m FU in both primary care and in emergency department	Not reported Not reported Yes
Joseph et al. 2014	All included studies (n=11)	1997–2011 RCT, Cluster RCT	UK, Australia, US, Canada, Scotland, Sweden, China, Taiwan.	BI (Nurse-conducted; NCBI)	Various individualised interventions delivered by specialist/non-specialist AOD and MH nurse or GP; simple structured advice on general health related to alcohol, health promotion booklet or combination. Most single session, up to 3 sessions 5– 25 mins each	Alcohol	Primary care (General practice-based); hospital inpatient; emergency department.	TAU (GP or nurse delivered advice on harm reduction), minimal intervention (booklet on either general health or alcohol specific), usual care plus booklet, MI	Alcohol consumption (self-report frequency and quantity) in time period between baseline and FU	**Alcohol consumption (self-report frequency and quantity):** NCBI>TAU/standard information at 6-12 m FU (5/9 trials); NCBI=TAU/standard information at 3-6 m FU; NCBI = MI; NCBI = physician-delivered BI	Not reported Not reported Yes
Kaner et al. 2018	All included	1989–2014	US (n=34/69), UK, Spain,	BI (including screening)	Verbally-delivered information,	Alcohol	Primary care (General practice-	Assessment and/or screening	Alcohol consumptio	**Alcohol consumption (ethanol g/wk):** BI>minimal/no	Yes Yes

Question 1. ***Brief interventions***

Publication reference	Study ref.	Study years Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	studies (n=69)	RCT, Cluster RCT	Australia, Canada, Sweden, Denmark, France, Germany, Poland, Switzerland, South Africa, Kenya, Brazil, Thailand		advice or counselling, most single session, up to 5 sessions; extended BI (>5 sessions or total >60 mins; based on MI, MET, FRAMES, CBT approaches)		based or other); emergency department	only; usual care for the presenting condition; minimal intervention (general health advice or minimal advice about alcohol; leaflet with general health/lifestyle advice or alcohol specific information)	n (ethanol g/wk); Frequency of drinking and of binge drinking; Proportion of heavy or binge drinkers; Alcohol-related harms; Health-related QOL	intervention at 12 m, effects smaller in emergency department than primary care, effects larger for advice-based than for counselling based BIs, effect-sizes similar at 6m and at 12 m FU. **Frequency of drinking and of binge drinking:** BI = minimal/no intervention at 6 and at 12 m FU. **Intensity of drinking (ethanol g/day):** BI=minimal/no intervention at 12 m FU. **Proportion of heavy or binge drinkers:** BI>minimal/no intervention at 12 m FU. **Alcohol-related harms:** BI=Control/Comparison (n=16/20); BI>Control Comparison up to 9 m FU (n=4/20). **Health-related quality of life:**	Yes

Question 1. ***Brief interventions***

Publication reference	Study ref.	Study years Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										BI=Control/Comparison (4/6); BI>Control/Comparison (n=2/6)	
Klimas et al. 2018	Darker et al. 2016, Feldman et al. 2013, Henihan et al. 2016	2013, 2016 RCT, Cluster RCT	US, Ireland	BI	Manualised BI delivered by trained mixed clinicians or GP only, based on WHO guidelines, 1 session	Alcohol	Specialist AOD outpatient clinics; Primary care	TAU	Alcohol consumption (reduction, stabilisation, number of drinks p/wk); Treatment retention; Illicit drug use; Alcohol-related problems or harms	**Alcohol consumption (reduction, stabilisation, number of drinks p/wk):** all BI = TAU at 3 and 9 m FU **Treatment retention:** BI = TAU at 3 m FU. **Illicit drug use:** no data. **Alcohol-related problems or harms:** no data	Not reported Not reported No
Landy et al. 2016	All included studies (n=34)	1998–2014 RCT, Uncontrolled Trial (Pre-/Post-Intervention)	US, UK, Australia, Sweden, Germany, Poland, Spain, Switzerland	BI	Various; therapist-, computer-, SMS-delivered, single- or multi-session; incl. personalised verbal and/or written feedback, screening and assessment, and counselling	Alcohol	Emergency department	None (in some pre-/post-studies); Usual care; initial screening +/- provision of written information or referral list/numbers; scripted	Alcohol consumption (reduction at 3,6, and 9 m FU); Emergency department admissions and hospitalisations; Alcohol-	**Alcohol consumption (reduction at 3 m FU):** BI-related reductions at 3 m all studies (n=9); some BI>Control/Comparison, some BI=Control/Comparison **Alcohol consumption (reduction at 6 m FU):** BI>Control/Compariso	Not reported Not reported Yes

Question 1. ***Brief interventions***

Publication reference	Study ref.	Study years Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
								discharge instructions	related injuries	n at 6 m FU; BI=Control/Comparison at 6 m FU (majority of studies). **Alcohol consumption (reduction at 12 m FU):** BI>Control/Comparison at 12 m FU; BI=Control/Comparison at 12 m FU (majority of studies). **Emergency department admissions and hospitalisations:** BI=Control/Comparison; **Alcohol-related injuries:** BI>Control/Comparison (injuries); BI=Control/Comparison (self-harm)	
McCambridge & Jenkins 2008	All included studies (n=7)	1996–2001 RCT, quasi-experimental study	US, Finland, 10 other countries (WHO Brief Intervention Study Group)	BI	Various; single or multi-session.	Tobacco/Alcohol	Primary care; community-based; emergency department; general hospitals	No intervention; Screening and assessment; General health or alcohol use information booklet/advice and feedback; Interview/disc	Smoking (cessation rates reduced frequency of smoking), Alcohol consumption	**Smoking (cessation rates and reduced frequency of smoking):** BI = Control/Comparison. **Alcohol consumption:** BI>Control/Comparison (n=4/7; one study in males only)	Not reported Not reported No (Tobacco) Yes (Alcohol)

Question 1. ***Brief interventions***

Publication reference	Study ref.	Study years Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
								ussion of health-related behaviours			
McQueen et al. 2011	All included studies (n=14)	1988–2006 RCT	US, UK, Australia, Germany, Taiwan, Finland	BI	Single or two sessions lasting 15 to 60 mins. Counselling and information/advice based in person, or over the phone. Delivered by a variety of clinicians alone or in combination, including nurse, physician, AOD counsellor, occupational therapist, psychologist	Alcohol	General hospital; specialist mental health outpatient; medical/surgical units.	Usual care +/- screening and feedback.	Alcohol consumption (reduction at 6, 9 and 12m FU); Hospital re-admission rates	**Alcohol consumption (reduction at 6, 9 and 12m FU):** BI>Control/Comparison at 6 and 9 m FU; BI=Control/Comparison at 12 m FU. **Alcohol consumption - self-report only (reduction at 6, 9 and 12m FU):** BI=Control/Comparison at 6 and 9 m FU; BI>Control/Comparison at 12 m FU. **Hospital re-admission rates:** BI=Control/Comparison at 4, 9, and 12 m FU	Not reported Not reported Yes
Parmar & Sarkar 2017	All included studies (n=27)	1997–2014 RCT (two and three group); Uncontrolled trial; Non-randomised controlled trial;	US, Sweden, Australia, Canada, Switzerland, the Netherlands, Brazil, India	BI	Single or multi-sessions; face-to-face; digital or telephone delivery;	Cannabis	Primary care (GP and community-based); emergency departments; University health service/clinic; in-community	Control (not described); minimal intervention; usual care; other intervention (e.g., CBT, MET)	Cannabis use and cannabis (in general, in specific healthcare settings)	**Cannabis use (in general):** BI>Control/Comparison; BI=other intervention (e.g. CBT or MET) **Cannabis use (in emergency department):** BI=Control/Comparison (mixed findings).	Not reported Not reported Yes

Question 1. ***Brief interventions***

Publication reference	Study ref.	Study years Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
		experimental study					(web-based; telephone-based); specialist AOD clinics; specialist MH inpatient			**Cannabis use (in primary care):** BI>Control/Comparison (majority studies)**. Cannabis use (in GP setting):** 1 in 7 patients benefit from BI (pilot study)	
Saitz, 2010	Burge et al., 1997, Chang et al. 1997	1997 RCT (two and three group)	US, UK, Norway, Australia	BI (including screening)	Clinician-delivered (physician or specialist addiction psychiatrist)	Alcohol	Non-specialist outpatient clinic; general hospital-based clinic	Referral to treatment; education-only sessions; no intervention	Alcohol consumption (frequency and addiction severity)	**Alcohol consumption (frequency and addiction severity):** BI=Control/Comparison	Not reported Not reported No
Stead et al. 2016	All included studies (n=55)	1988–2015 RCT	US, Canada, Australia, Denmark, Spain, UK, Brazil, Italy, the Netherlands, Sweden, Japan, Hong Kong	BI (brief advice and counselling) + pharmacotherapy	Multiple sessions delivered by specialist cessation counsellors, trained trial personnel, or usual care provider. Mail, telephone, face-to-face based	Tobacco	In-community/general population; Community-based/primary care clinics; Emergency department; Hospital inpatient	Usual care; brief advice or self-help booklet.	Abstinence from smoking after 6+ m FU	**Abstinence from smoking after 6+ m FU:** BI + pharma > Control/Comparison Effects larger for healthcare versus other recruitment settings	Not reported Not reported Yes
Sullivan et al. 2011	All included studies (n=13)	1996– 2008 RCT	US, Australia, UK, Canada, Sweden,	BI (counselling based)	Single or multi-sessions (1 x 5 mins - 6 x 90 mins) delivered by non-physician	Alcohol	Primary-care clinic	Non-structured alcohol intervention (Usual care or	Reductions in alcohol consumption (difference	**Reductions in alcohol consumption (difference in mean standard drinks from baseline to 6 m FU):**	Not reported Not reported Yes

Question 1. ***Brief interventions***

Publication reference	Study ref.	Study years Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			the Netherlands		clinicians (e.g. nurse, psychologist)			advice) delivered by a physician or non-physician clinician	in mean standard drinks from baseline to 6 m FU)	BI > Control/Comparison; Non-physician BI = physician BI; Non-physician + physician BI > physician only BI (n=1/2)	
Tirado-Munoz et al. 2018	Laporte et al. 2017	2017 RCT	France	BI +/- pharmacotherapy	Single session delivered by a therapist; based on feedback advice and counselling	Cannabis	Primary-care (GP-based)	Assessment of cannabis use and usual care (provision of information pamphlet)	Cannabis, alcohol, cocaine use reduction at last FU (12 m)	**Cannabis, alcohol, cocaine use reduction at last FU (12 m):** BI = Control/Comparison	Not reported Not reported No

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level I (Based on recent Cochrane systematic review of RCTs; Kaner et al. 2018	**C** (A systematic review of Level II studies with moderate risk of bias overall)	**B** (Inconsistencies in the evidence can be explained in terms of substantial heterogeneity between RCTs in terms of setting, populations, screening measures used, baseline consumption of alcohol and nature of the Control/Comparator conditions)	**B** (Mean reductions in AOD use small, equivalent to 2.5 standard drinks, meaning most would still be drinking at harmful/hazardous levels; reductions still determined as meaningful at the individual if not population level)	**A–B** (Overall included RCTs rated as moderately clinically representative or 'real world' trials; RCTs conducted in mostly US and UK-based primary care settings similar to Australia; use of no/minimal intervention Control/Comparators consistent with 'real world' practice)

Question 1. ***Cognitive behavioural therapy***

Ref.	Study refs.	Study years Study design	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Amato et al. 2011a	Abbott 1998 Abrahams 1979 Avants 2004 Bickel 2008 Brooner 2004 Chopra 2009 Epstein 2009 Ghitza 2008 Gross 2006 Hayes 2004 Iguchi 1997 Khatami 1982 Kosten 2003 Mibly 1978 Neufeld 2008 Oliveto 2005 Peirce 2006 Petry 2005 Petry 2007 Preston 2000 Scherbaum 2005 Stitzer 1992	1978–2009 RCT	US	Any behavioural (incl. CBT, ACT, CM) + pharmacotherapy	Therapist delivered; interactive; self-delivered digital; provision of vouchers/ prizes	Opioid	Specialist AOD outpatient	Pharmacotherapy alone (Usual care)	Retention in treatment; Opioid abstinence; Continuous weeks of abstinence; Treatment retention at FU; abstinence at FU	**Retention in treatment:** Intervention = Control/Comparison **Opioid Abstinence:** Intervention = Control/Comparison **Continuous weeks of Abstinence:** Intervention > Control/Comparison; **Treatment retention at end of FU:** Intervention = Control/Comparison **Abstinence rates end FU:** Intervention = Control/Comparison	Not reported Not reported Yes
Apollonio & Bero 2016	Bobo 1996, 1998 Breland 2014 Burling 1991 Gariti 2002 Mueller 2012 Patten 1998 Rohsenow 2014, 2015 Shoptaw 2002	1996– 2015 Cluster RCT; RCT	US Switzerland	Counselling (incl. CBT-based, MI-based) +/- pharmacotherapy	Brief or extended sessions; individual or group delivered in clinic	Tobacco	Residential AOD; Inpatient specialist AOD; In-community	Pharmacotherapy alone (Usual care)	Tobacco abstinence/cessation; Abstinence from alcohol/other drugs	**Tobacco abstinence/cessation:** Intervention = Control/Comparison **Tobacco abstinence/cessation:** Intervention + pharma = Control/Comparison	Not reported Not reported Yes

Question 1. ***Cognitive behavioural therapy***

Ref.	Study refs.	Study years Study design	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Stein 2006									**Alcohol/other drug abstinence/cessation:** Intervention = Control/Comparison	
Budney et al. 2010	**Stephens et al. 1994, 2000**	1994–2000 RCT	US	CBT	Single or multi-session	Cannabis		Social support; MET vs WL Control	Cannabis use reductions	**Cannabis use reductions:** CBT = SS; CBT = MET > WL control	Not reported Not reported Yes
Chatters et al. 2016	Babor et al. 2004 **Copeland et al. 2001** **Hoch et al. 2012,** 2014 **Jungerman et al. 2007** **Stephens et al. 2000**	2000–2014 RCT	US Australia Germany Switzerland Canada	CBT (+/- other psychotherapy)	Individual or group sessions; telephone/digital delivery	Cannabis	Not reported; voluntary and referral patients	WL control; BMI/MET; other intervention (incl. different CBT format/duration)	Cannabis usage; severity of dependence; dependence symptoms; cannabis-related problems	**Cannabis usage:** CBT > WL, CBT>BMI/BMET (inconsistent findings), CBT = another intervention **Severity of dependence:** CBT>WL control, CBT>BMI/BMET, CBT = another intervention, Phone/web-based CBT/counselling = WL/other, Phone/web-based CBT/counselling >WL/other.(inconsistent findings) **Dependence symptoms:** CBT>WL control, CBT>BMI/BMET (inconsistent findings), CBT = another	Not reported Not reported Yes

Question 1. ***Cognitive behavioural therapy***

Ref.	Study refs.	Study years Study design	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										intervention **Cannabis-related problems:** CBT>WL control, CBT=BMI/BMET, CBT = another intervention. CBT = another intervention, Phone/web-based CBT/counselling > WL/other	
Darker et al. 2015	Baillargeon 2003 Belleville 2007 Gosselin 2006 Morin 2004 O'Connor 2008 Otto 1993, 2010 Oude Voshaar 2003 Parr 2013 Spiegel 1994 Vorma 2002	1994– 2013 RCT	Canada, US, the Netherlands,Finland	CBT (+/- tapering); CBT + self-help booklet	Individual or group sessions (face-to-face); mailed CBT resources	Benzodiazepines (BZDs)	Specialist mental health outpatient clinics; primary care	Tapering use; TAU; self-help booklet	Discontinuation of BZDs; Reduction BZD use >50%; Treatment retention; positive urine for BZDs; Change in OTI score for BZD use	**Discontinuation of benzodiazepine (BZDs):** CBT (taper) > taper at 1 m post-treatment (RR 1.4), 3 m FU (RR 1.51) not at 6, 11/12, 15 or 24 m FU **Reduction BZD use >50%:** CBT (taper) = TAU **Treatment retention:** CBT (taper) = TAU **Positive urine for BZDs:** CBT (no taper) = TAU **Change in OTI score for BZD use:** CBT + self-help booklet = self-help booklet	Not reported Not reported Yes

Question 1. ***Cognitive behavioural therapy***

Ref.	Study refs.	Study years Study design	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Davis et al. 2015	**Carroll et al. 2006** **Copeland et al. 2001** Gates et al. 2012 Kadden et al. 2007 Hope et al. 2012 Martin & Copeland 2008 **MTPRG 2004** **Stephens et al. 1994** **Stephens et al. 2000**	1994–2012 RCT	Not reported	CBT + other behavioural-based therapies (e.g. RP, MET, CM)	Individual or group sessions (in person or not in person)	Cannabis	Not reported	WL, TAU (incl. social support, individual drug counselling)	Frequency and severity of cannabis use; psychosocial functioning	**Frequency and severity of cannabis use:** CBT + BT > Control/Comparison (Hedges g = 0.49; average intervention patient performed 69% better than control condition) **Psychosocial functioning:** CBT + BT > Control/Comparison (Hedges g = 0.49; average intervention patient performed 66% better than control condition). **Combined outcomes:** CBT + BT > Control/Comparison all time points **Moderators:** CBT + BT (in person) = CBT + BT (not in person). CBT + BT (individual) = CBT + BT (group)	Yes Yes Yes
De Crescenzo et al. 2018	**Carroll** 1994, **1998,** 2014, 2016 **Crits-Cristoph 1999**	1994–2013 RCT	US, Spain, Australia, Switzerland	CBT (+/- CM)	Not reported	Mixed	Outpatient (not specified)	TAU, another psychosocial intervention (CM, CM + CBT, CRA,	Treatment retention/dropout; Abstinence at EOT	**Treatment retention/dropout:** CBT > TAU **Abstinence at EOT:** CBT < CM + CBT	Not reported Not reported Yes

Question 1. ***Cognitive behavioural therapy***

Ref.	Study refs.	Study years Study design	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Dursteler-McFarland et al. 2013 Epstein 2003 **Maude-Griffin 1998** McKay 1997 **Milby 2008** Petitjean 2014 **Rawson 2002** **Sanchez-Hervas 2010** Shoptaw 2008 **Smout, 2010**							non-contingent rewards, meditation-based treatment, supportive dynamic therapy)			
Gates et al. 2016	**Budney** 2000, **2006** **Carroll 2006,** 2012 **Copeland 2001** **Hoch 2012,** 2014 **Jungerman 2007** Kadden 2007 Litt 2013 Madigan 2013 **MTPRG 2004** Roffman 1988 **Stephens 1994, 2000**	1988–2014 RCT	US, Germany, Australia, Brazil, Canada, Switzerland, Ireland	CBT	Individual or group (low intensity, high intensity)	Cannabis	Outpatient	Another therapy; TAU; inactive control	Cannabis use (frequency and quantity); Abstinence rates; Severity of cannabis use disorder; cannabis-related problems, treatment retention	**Cannabis use (frequency):** CBT > inactive control; CBT >MET + CBT, MET > inactive control; CBT > another therapy **Cannabis use (quantity):** CBT (high intensity) > CBT (low intensity) **Abstinence rates:** CBT > inactive control (point prevalence); CBT > MET + CBT, MET > inactive control (point prevalence); CBT = another therapy	Ys Not reported Yes

Question 1. ***Cognitive behavioural therapy***

Ref.	Study refs.	Study years Study design	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										(continuous) **Severity of cannabis use disorder:** CBT (high intensity) > CBT (low intensity) **Cannabis-related problems:** CBT >MET + CBT, MET > inactive control; CBT (high intensity) > CBT (low intensity)	
Klimas et al. 2018	**Carroll 1998**	1998 RCT	US	Cognitive Behavioural Coping Skills Training (CBCST)	Individual, Face-to-face	Alcohol	Specialist AOD outpatient clinic	12-step program	Alcohol abstinence (during treatment, at FU); Illicit drug use abstinence (during treatment, at FU); Treatment retention at EOT	**Alcohol abstinence:** CBCST = 12-step (all measures) **Illicit drug use abstinence:** CBCST = 12-step (all measures). **Treatment retention at EOT:** CBCST = 12-step	Not reported Not reported Yes
Magill et al. 2019	**Budney et al. 2006** Kadden et al. 2001 Lanza et al. 2014 Litt et al. 2016 **Maude-Griffin et al. 1998** Morgenstern et al. 2001	1982–2018 RCT	US (72%; other countries not reported)	CBT	Individual or group sessions	Mixed	Specialist AOD use and MH clinics, in community, other (university, criminal justice,	Minimal therapy (i.e., WL control), Non-specific therapy (i.e., TAU), Specific therapy (i.e., ACT,	AOD use (frequency and quantity) at early (1-6 m) and late FU (8+ months).	**AOD use (frequency):** CBT > Minimal therapy (at early and late FU); CBT > non-specific therapy (at early FU); CBT = non-specific therapy (at late FU); CBT = specific therapy (early and late FU).	Not reported Not reported Yes

Question 1. ***Cognitive behavioural therapy***

Ref.	Study refs.	Study years Study design	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Papas et al. 2011 Project MATCH 1997 Sandahl et al. 2004 Shakeshaft et al. 2002 Sitharthan et al. 1997 **Smout et al. 2010**						other medical)	interactional group therapy, MI/12-step program, BI, cue exposure, MI, CM, Network Support Therapy)		**AOD use (quantity):** CBT > Minimal therapy (at early and late FU); CBT > non-specific therapy (at early FU); CBT = non-specific therapy (at late FU); CBT = specific therapy (early and late FU)	
Minozzi et al. 2016	Baker 2001, 2005 **Carroll** 1994, **1998,** 2014 **Crits-Christoph 1999** **Dursteler-MacFarland 2013** Higgin 1993, 2003 **Maude-Griffin 1998** **Milby 2008** **Rawson 2002** **Sanchez-Hervas 2010** Shoptaw 2005 **Smout 2010**	1993–2013 RCT	US, Spain, Australia, Switzerland, UK	CBT	Individual and/or group session (face-to-face)	Mixed	Outpatient	No intervention; TAU; Interpersonal therapy; 12-step program; CM; Individual counselling; ACT	Treatment retention/dropout; Abstinence at EOT (point prevalence, continuous); Abstinence a longest FU (point prevalence); Frequency drug intake (longest FU); Longest period abstinence; Severity of dependence; Depression	**Treatment retention/dropout:** CBT = no intervention; CBT > TAU; CBT = 12-step; CBT = Individual Counselling; CBT = ACT. **Abstinence at EOT:** CBT = no intervention, CBT = TAU (point prevalence); CBT = no intervention, CBT = TAU (continuous); CBT = 12-step (continuous); CBT = CM (point prevalence); CBT < Individual Counselling (point prevalence); CBT = ACT (point prevalence). **Abstinence at longest**	No Not reported Yes

Question 1. ***Cognitive behavioural therapy***

Ref.	Study refs.	Study years Study design	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										FU: CBT = no intervention (point prevalence and continuous), CBT > TAU (continuous); CBT > 12 step (continuous); CBT = CM (point prevalence); CBT = Individual Counselling (point prevalence); CBT = ACT (point prevalence). **Frequency drug intake (longest FU):** CBT = no intervention; CBT = CM **Longest period abstinence:** CBT > no intervention; CBT = TAU **Severity dependence:** CBT = no intervention; CBT = TAU **Depression:** CBT = no intervention	

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level I (Based on	**A** (Several level I	**B** (Most studies consistent; inconsistencies may be	**B–C** (Findings have moderate to substantial	**A–B** (Included study samples similar to

Question 1. ***Cognitive behavioural therapy***

Ref.	Study refs.	Study years Study design	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
synthesis of studies include in a meta-analytic review of RCTs; Magill et al. 2019)	studies with mostly low risk of bias)	explained due to differences in outcome measures, Control/Comparator types)	implications for clinical practice showing the impact of Control/Comparator on treatment effects; moderate and durable effects over time compared to non/minimal intervention and small, often non-significant effects compared to other non-specific and specific interventions. Efficacy findings would need to be confirmed in 'real world' effectiveness trials)	treatment-seeking populations in Australia in terms of AOD use characteristics, age and gender; majority of studies conducted in the USA, which may limit the generalisability of results to a universal healthcare system)							

Question 1. ***Motivational interviewing/motivational enhancement therapy***

Ref.	Study refs.	Study year/s Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison /Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Apollonio & Bero 2016	Bobo 1996, 1998 Breland 2014 Burling 1991 Gariti 2002 Mueller 2012 Patten 1998 Rohsenow 2014, 2015 Shoptaw 2002 Stein 2006	1996–2015 Cluster RCT; RCT	US, Switzerland	Counselling (incl. CBT-based, MI-based) +/- pharmacotherapy	Brief or extended sessions; individual or group delivered in clinic	Tobacco	Residential AOD; Inpatient specialist AOD; In-community	Pharmacotherapy alone (Usual care)	Tobacco abstinence/ cessation; Abstinence from alcohol/other drugs.	**Tobacco abstinence/cessation :** Intervention = Control/Comparison; **Tobacco abstinence/cessation :** Intervention + pharma = Control/Comparison; **Alcohol/other drug abstinence/cessation :** Intervention = Control/Comparison	Not reported Not reported No
Budney et al. 2010	**Copeland et al. 2001** Jungerman et al. 2007 MTPG 2004 **Stephens et al.2000,** 2005	2000–2007 RCT	US, Australia Brazil	MET + CBT (More or less intensive)	Single or multi-session; shorter and longer duration	Cannabis	Not reported	Less/more intensive MET/CBT; MET alone; WL control	Cannabis use reductions	**Cannabis use reductions**: MET = CBT > WL control; Multi-session MET/CBT = Single-session MET/CBT > WL control; MET/CBT > MET > WL control; Longer duration MET/CBT > shorter duration MET/CBT > WL control; 9-session MET = 4-session MET/CBT	Not reported Not reported Yes
Chatters et al. 2016	Babor et al. 2004	2001–2012 RCT	Not reported	MI, BMI	1-2 sessions MET, (B)MI (face-to-face	Cannabis	Not reported	WL, assessment only, another	Cannabis usage; severity of	**Cannabis usage (post treatment):** MI > WL/assessment only	Yes Not reported

Question 1. ***Motivational interviewing/motivational enhancement therapy***

Ref.	Study refs.	Study year/s Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison /Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Copeland et al. 2001 de Dios et al. 2012 Fernandes et al. 2010 Fisher et al. 2012 Gmel et al. 2013 Humeniuk et al. 2012 Lee et al. 2010, 2013 Stein et al. 2011 **Stephens et al.** 2000, 2006, 2007				or via telephone), or personalised feedback (face-to-face or web-based)			intervention (education regarding cannabis or general health)	dependence; dependence symptoms; cannabis-related problems	(n=5/10; small to medium effect sizes); BMI >other intervention (n-=1/1). **Cannabis usage (FU):** BMI > other intervention (n=1/3 at 6 mo. FU). **Severity of dependence (post treatment):** MI >WL assessment only (n=3/3; small to medium effect); BMI >other intervention (n-=1/1) **Severity of dependence (FU):** BMI >other intervention (n=1/1 at 6, 12 m). **Cannabis-related problems (post treatment):** MI>WL/assessment only (n=1/1); BMI >other intervention (n-=1/1). **Cannabis-related problems (FU):** BMI=other intervention (n-=1/1 at 6, 12 m).	Yes

Question 1. ***Motivational interviewing/motivational enhancement therapy***

Ref.	Study refs.	Study year/s Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison /Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										N.B. More mixed findings on outcomes at FU (3–6, 6–9 m), with some MI>WL/assessment only; sig findings more likely at shorter FUs	
Darker et al. 2015	Bagoien 2013 Becka 2004 Carroll 2006 Zahradnik 2009	2004–2013 RCT	Norway, Czech Republic, US, Germany	MI	1–5 individual, manual guided sessions MI including assessment/ evaluation (delivered face-to-face and via telephone)	BZDs	Specialist AOD outpatient clinic; acute hospital inpatient (incl MH).	TAU (e.g., pharmacotherapy alone, general psychotherapy; assessment/ evaluation only; information booklet about problematic prescription drug use)	Discontinuation of BZDs; Reduce BZD use >50%	**Discontinuation of BZDs:** MI = TAU (at post-treatment, 3, 6, 12 m FU) **Reduce BZD use >50%:** In sufficient data	Not reported Not reported No
Hettema & Hendrinks 2010	All included studies in non-pregnant samples (n=23)	1998–2009 RCT	US, others not reported	MI +/- another intervention (feedback, educational booklet etc) +/-	Single- or multi-session; delivered by combination of MH or medical health professionals	Tobacco	In-community/general population, primary care (GP), University	Combination of minimal interventions (e.g. placebo, no treatment, attentional control)	Most rigorous smoking cessation outcome at shortest	**Most rigorous smoking cessation outcome at shortest FU:** MI=Control/Comparison (n=9/14); I > Control /Comparison (n=3/14); MI < Control	Not reported Not reported Yes

Question 1. ***Motivational interviewing/motivational enhancement therapy***

Ref.	Study refs.	Study year/s Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison /Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				pharmacotherapy	; telephone and computer		, residential care.	and/or intensive interventions (+/- pharmacotherapy)	FU and at longest FU	/Comparison (n=2/14). **Most rigorous smoking cessation outcome at longest FU:** MI=Control/Comparison (n=14/19); MI > Control /Comparison (n=4/19); MI < Control /Comparison (n=1/19)	
Klimas et al. 2018	Nyamathi, 2010; Korcha, 2014; Stein, 2002	2002–2014 RCT	US, Ireland, Switzerland	MI, BMI, MI (Intensive)	Individual or group delivered (alone or in combination); single or multi-session	Alcohol	Specialist AOD/addiction outpatient clinic; acute hospital inpatient (incl. MH)	TAU, educational intervention only, assessment only; MI (vs MII)	Alcohol use (frequency and quantity); Alcohol use reduction; Alcohol abstinence; Addiction severity; Treatment retention; illicit drug use (concurrent); Alcohol-related harms	**Alcohol use (frequency and quantity):** MI = TAU/education only; BMI = Assessment only at all time-points **Alcohol use reduction:** MI = TAU/education only; BMI = Assessment only (except BMI>Assessment only 7+ days drinking reduction) at all time-points. **Alcohol abstinence:** MI = TAU/education only at all time-points (post-treatment, 3, 9 months). Addiction severity: MII	Not reported Not reported No

Question 1. ***Motivational interviewing/motivational enhancement therapy***

Ref.	Study refs.	Study year/s Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison /Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										= MI at all time points. **Treatment retention:** MI = TAU/education only; BMI = Assessment only; MII = MI **Illicit drug use (concurrent):** MI = TAU/education only; BMI vs Assessment only no data; MII = MI at all time-points; BMI no data **Alcohol-related harms:** no data	
Lindson et al. 2019	All included studies (n=37)	1998–2016 RCT, Cluster RCT	US, Australia, Brazil, China, India, South Africa, Spain, UK	MI, MET +/- another smoking cessation treatment	Clinician (physician, psychologist/ counsellor/other healthcare worker) delivered face-to-face, or combination of face-to-face and/or telephone (call and text-based),	Tobacco	General population; primary-care or community based; smoking Quitline	No smoking cessation treatment; non-MI smoking cessation treatment; lower-intensity MI	Smoking cessation; MH and QOL	**Smoking cessation:** MI = no smoking cessation treatment; MI + smoking cessation treatment = smoking cessation treatment alone; MI = non-MI smoking cessation treatment; MII > MI. **MH and QOL:** Insufficient data (n=1)	Not reported Insufficient data No

Question 1. ***Motivational interviewing/motivational enhancement therapy***

Ref.	Study refs.	Study year/s Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison /Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
					digital/virtual online MI group. Single or multi-session, up to 12 sessions						
Minozzi et al. 2016	Ingersoll 2011 Marsden 2006 McKee 2007 Mitcheson 2007 Stein 2009	2007–2011 RCT	US, UK	MI, BMI (+ written health information), MET (+ brief CBT)	Single or multi-session face-to-face or provision of written information/poster display	Mixed	Outpatient, Inpatient	No intervention; TAU; written handouts of treatment	AOD treatment retention; Abstinence (at longest FU); Drug intake frequency; Dependence severity	**Treatment retention:** MI = No intervention. **Abstinence (at longest FU) :** MI > No intervention (point prevalence); MI = No intervention (continuous). **Drug intake frequency:** MI= No intervention. **Dependence severity:** MI = No intervention	No Not reported Yes
Smedslund et al. 2011	All studies (n=59)	1993–2010 RCT, quasi RCT, Pilot RCT	US, Australia, the Netherlands, UK, Canada, Germany, New Zealand	(B)MI, (B)MET	Single and multi-sessions (face-to-face and telephone); individual or group	Mixed	Outpatient; emergency department; Specialist AOD or general	No intervention; TAU; Assessment and feedback; other active intervention	AOD use (cessation and reduction at post-intervention; short, medium, long FU);	**AOD use:** MI > No intervention (at post-intervention; short, medium FU); MI = No intervention (at long FU); MI = TAU (at post-intervention and all FUs); MI = Assessment and	Not reported Not reported Yes

Question 1. ***Motivational interviewing/motivational enhancement therapy***

Ref.	Study refs.	Study year/s Study design/s	Study location	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison /Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
							medical inpatient; Primary-care clinic; University health service		Treatment retention	feedback (short FU); MI > Assessment and feedback (medium FU); MI = Other active intervention (at post-intervention and all FUs). **Treatment retention:** MI = No intervention; MI = TAU; MI = Other active intervention	

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level I for MI and - II for BMI (Based on a synthesis of studies in a systematic review of RCTs; Chatters et al. 2016)	**C–D** (Majority of the included RCTs assessed as being at high risk of bias, with remaining low or unclear risk).	**B–C** (Disparate evidence on primary outcome of AOD use; inconsistencies in study findings may be in part explained by differences in follow-up periods, intensity of the intervention, and nature of the Control/Comparator	**C–D** (Based on the included trials only able to assess the effectiveness of (B)Mis on a heterogeneous mix of individual who may or may not have cannabis use dependence; limited understanding of the longer-term impacts of (B)Mis).	**B–C** (The review was inclusive in scope yet Sub-specific populations at high risk of AOD use issues were excluded. Generalisability of findings to the broader population; and other AOD using populations apart from those that use cannabis may be limited).

Question 1. ***Contingency management***

Publication reference	Study references Study years	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Budney et al. 2010	Budney et al. 2000, 2006 Carroll et al. 2006 Kadden et al. 2007 Sinha et al. 2003 2000–2007	US RCTs	CM (abstinence-based voucher) +/- another psychosocial intervention (MET/CBT)	Not reported	Cannabis	Not reported	WL control; another intervention (either alone or in combination with CM; e.g. MET/CBT, Case management)	Cannabis abstinence; Cannabis usage; treatment retention	Cannabis abstinence: MET/CBT> MET or MET/CBT; MET/CBT/CM and CM>MET/CBT (during treatment); MET/CBT/CM>CM and MET/CBT and MET/CBT/CM > MET/CBT or CM (post-treatment); MET/CBT/CM > CM > MET/CBT or Case management. Cannabis usage: MET/CM = MET. Treatment retention: MET/CM > MET; MET/CBT/CM > CM > MET/CBT or Case management	No No Yes
`	**Budney et al. 2000,** 2011 **Budney et al. 2006** **Kadden et al. 2007** **Litt et al. 2013** 2000–2013	US RCTs	CM (vouchers for abstinence measured via urine test) -/+ CBT	In-person voucher -/+ CBT (computer-delivered)	Cannabis	Volunteer in community or referral.	CBT, another intervention (MET, Case management)	Cannabis usage, Severity of dependence, Number of cannabis problems	**Cannabis usage**: CM +CBT and CM > CBT (post-treatment), CBT + CM = CM = CBT (at 14-15m FU) **Cannabis problems**: CM = other psychosocial interventions, CM = CBT (12m, 14m FU) **Severity of dependence**: CM = other psychosocial	No Not reported Yes

Question 1. ***Contingency management***

Publication reference	Study references Study years	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
									interventions, CM = CBT = Case Management (at 14m FU)	
Davis et al. 2015	**Carroll et al. 2006** **Kadden et al. 2007** 2006–2007	Not reported RCTs	CM	In-person	Cannabis	Primary care	TAU, PsychPL (therapist addressing life concerns), other active interventions	Cannabis use (number of days used in past, urine samples), Cannabis-related problems (based on DSM criteria)	**Abstinence:** CM > CBT + ME + CM > CBT + ME and PsychPL (Post-treatment), CBT + ME + CM > CM > CBT + ME and PsychPL (at FU). **Negative urine samples**: CBT + ME + CM > CBT + ME and TAU **Attendance**: CBT + ME + CM > CBT + ME and TAU	Not reported Not reported Yes
De Crescenzo et al. 2018	Carroll et al. 2016 Epstein et al. 2003 **Festinger et al. 2014** **Garcia-Fernandez et al. 2011** **Garcia-Rodriguez et al. 2007** Ghitza et al. 2007 **Hagedorn et al. 2013** **Higgins et al.** 1993, **1994, 2000,** 2003 **Kirby et al. 1998**	US, Spain, Switzerland RCTs	CM, Non-contingent rewards	Not reported	Cocaine and/or amphetamine	Outpatient	TAU or another psychosocial intervention	Efficacy (proportion of patients in abstinence via urine test), longest duration of abstinence	**Abstinence**: CBT + CM and CM + 12-step > TAU (at EOT); CM+Community reinforcement, CBT + CM, CM > Non-contingent rewards and TAU (EOT), CM+Community reinforcement > 12-step + non-contingent rewards and CBT; CM and CM +CBT > CBT (EOT) **Dropout**: CBT, CM, CM	Not reported Not reported Yes

Question 1. ***Contingency management***

Publication reference	Study references Study years	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Landovitz et al. 2015 Ledgerwood et al. 2006 **McDonell et al. 2013** **Menza et al. 2010** Milby et al. 2008 **Peirce et al. 2006** **Petitjean et al. 2014** **Petry et al**. 2002, **2005, 2005**, 2007, **2012, 2012**, **2013** **Poling et al. 2006** **Rawson et al. 2002**, 2006 **Roll et al. 2013** **Secades-Villa et al. 2013** **Shoptaw et al. 2008** **Silverman et al. 1998** Umbricht et al. 2014 1993–2016								+ Community reinforcement > TAU (at EOT); CM + Community reinforcement, Community reinforcement, non-contingent rewards, CM, CBT > TAU	
Gates et al. 2016	**Budney et al. 2000**, **2006** **Carroll et al. 2006**, 2012	US RCTs	CM (abstinence-based and adherence-	In-person	Cannabis	Outpatient, community-based treatment	Inactive control, delayed treatment	Self-reported cannabis use, severity of cannabis use	**Reduction in cannabis use frequency**: CM-abs = CM-adh (equally effective as adjuncts at	Yes Not reported

Question 1. ***Contingency management***

Publication reference	Study references Study years	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Kadden et al. 2007 **Litt et al. 2013** 2000–2013		based) -/+ other psychosocial treatment (CBT, MET etc)			centre	control, alternative psychosocial intervention	disorder, level of cannabis-related problems, MH, frequency of self-reported other substance intake	12 m FU); CBT > CBT + CM-abs or - adh. **Abstinence**: CBT + CM-adh = CBT + CM-abs = CM-abs (at 12 m FU) **Quantity of cannabis used**: CBT + CM-abs > CM-abs (during treatment only, no sig dif at 12-m FU); CBT + CM-adh > CM-abs and CBT + CM-abs. **Severity of cannabis use disorder**: MET + CBT + CM-abs > MET + CBT and MET; MET + CBT + CM-abs + CM-adh = DC + CM abs + CM-adh = MET + CBT = DC (post-treatment); MET+CBT = MET +CBT + CM-abs = CM-abs (across 12 m) **Cannabis-related problems:** CBT + CM-abs = CBT + CM-adh = CM-abs (across 12 m); MET + CBT +CM-abs = CM-abs = MET +CBT (across 12 m) **Other substance use**: MET + CBT + CM-abs > MET and MET + CBT	Yes

Question 1. ***Contingency management***

Publication reference	Study references Study years	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
									(EOT for alcohol); MET + CBT + CM-abs = MET + CBT = CM-abs (over 12 m for other drug dependence); CBT + CM-abs = CBT +CM-adh = CM-abs (over 12 m, for other drug use)	
Minozzi et al., 2016	**Festinger et al. 2014** **Garcia-Fernandez et al. 2011** **Garcia-Rodriguez et al. 2007** **Hagedorn et al. 2013** **Higgins et al. 1994, 2000** **Kirby et al. 1998** **McDonell et al. 2013** **Menza et al. 2010** **Peirce et al., 2006** **Petitjean et al. 2014** **Petry et al. 2005**, **2005b, 2007**, **2013**, **2012, 2012b** **Poling et al. 2006** **Rawson et al. 2002** **Roll et al. 2013**	US, Spain, Switzerland RCTs	CM -/+ other psychosocial treatment	In-person, not specified	Psychostimulants	Outpatient (non-specific)	No intervention, TAU, another psychological or pharmalogical treatment	Use of substance, adverse events, severity of dependence, depression	**Point abstinence**: CM = no intervention (EOT); CM < no intervention (longest FU); CM > TAU (EOT); CM = TAU (longest FU); Non-contingent reinforcements > CM (FU) **Continuous abstinence**: CM > no intervention (EOT); CM > no intervention (longest FU); CM > non-contingent reinforce (EOT) **Frequency of drug intake**: CM = no intervention (longest FU); CM = non-contingent reinforcements (longest FU) **Longest period of**	No No Yes

Question 1. ***Contingency management***

Publication reference	Study references Study years	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Schottenfeld et al. 2011 **Secades Villa et al. 2013** **Shoptaw et al. 2005** **Silverman et al**. 1996, **1998** 1996-2014								**abstinence**: CM > no intervention **Severity of dependence**: CM = no intervention **Depression**: CM = no intervention	

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level I Evidence for CM (+/- CRA) (Based on a systematic review of RCTs; De Crescenzo et al. 2018)	**C** (Level II studies with overall moderate risk of bias)	**B** (Most studies consistent and inconsistencies may be explained in terms of Control/Comparator, duration of follow-up, and whether CM is combined with another psychosocial intervention, e.g. CRA)	**B–C** (Rigorous synthesis and evaluation of the CM literature, likely to inform clinical guidelines for the treatment of less studied AOD using populations)	**B–C** (Excluded individuals who were not formally diagnosable and those who were not actively treatment seeking, however did include those with another comorbid AOD use disorder, or mental health disorder)

Question 1. ***Mindfulness-based interventions incl. Acceptance Commitment Therapy***

Publication reference	Study references Study year/s	Study location/s Study design/	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Cavicchioli et al. 2018	All included studies (n=37) 1999–2017	Not reported RCT; non-RCTs	MBIs (incl. ACT, MBRP, MBSR) +/- standard psychosocial treatment (e.g. 12-step, CBT, individual counselling, psycho-education)	Individual and/or group delivered; manualised	Mixed	Specialist inpatient programs	Other active interventions for AOD use disorders (e.g. TAU; CBT; 12-step; individual counselling; psychoeducation)	AOD abstinence; overall MH; perceived stress; severity of depression, anxiety, PTSD symptoms	**Treatment retention (attrition):** MBIs = other active interventions. **AOD abstinence:** MBIs > Other active interventions. **Overall MH:** MBIs = other active intervention. **Perceived stress:** MBIs > Other active interventions. **Depressive symptoms:** MBIs > other active interventions (larger effects in: co-occurring AOD use/MH disorders vs AOD use only; Group alone vs group + individual). **Anxiety symptoms:** MBIs > other active interventions (larger effects in: long-term vs short term FU). **PTSD symptoms:** MBIs > other active interventions. All results pooled across adjunctive and mono-therapy MBIs.	Yes Yes Yes

Question 1. ***Mindfulness-based interventions incl. Acceptance Commitment Therapy***

Publication reference	**Study references** **Study year/s**	**Study location/s** **Study design/**	**Details of psychosocial intervention**	**Delivery mode/s of intervention**	**Substance type treated**	**Setting**	**Comparison/ Control Groups**	**Outcomes**	**Results relating to question**	**Positive outcomes: General health** **Wellbeing** **Harm reduction**
De Souza et al. 2015	All included studies (n=13) 2002–2014	US Pilot or feasibility RCTs	MBIs (incl., Mindfulness training, body scan, MBSR) +/- pharmacotherapy	Multi-sessions (daily or initial training + boosters); guided in person or via audio	Tobacco	In community/ general population; University; workplace	TAU; Quitline Counselling + pharmacotherapy; another intervention (e.g., thought suppression; body scan; exercise)	Smoking cessation; smoking reduction	**Smoking cessation:** MBIs>Control/Comparison (incl TAU at post-treatment but NOT 24-week FU); MBIs + pharma > Quitline + pharma (at 24 weeks FU) **Smoking reduction:** MBIs > TAU (at post-treatment and at 17-week FU); MBIs = another intervention (at 7-day FU)	Not reported Not reported Yes
Gates et al. 2016	de Dios et al. 2012 2012	US RCT	Mindfulness Meditation (MM)	2 x 45 min sessions over two weeks, in person delivered by trained therapists	Cannabis	University	Drug counselling	Cannabis use; abstinence	**Cannabis use; abstinence:** Insufficient data for analysis	Not reported Not reported Insufficient data

Question 1. ***Mindfulness-based interventions incl. Acceptance Commitment Therapy***

Publication reference	Study references Study year/s	Study location/s Study design/	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Grant et al. 2017	All included studies (n=9) 2009–2017	US, Iran, Taiwan RCT	MBRP +/- another psychosocial treatment	Manualised MBRP, in full or shortened version delivered by experienced trained therapists or instructors	Mixed	Specialist AOD care settings; prison (n=1)	TAU; another active intervention (relapse prevention only; health education; CBT)	Relapse to AOD use; AOD use (frequency, quantity)	**Relapse to AOD use:** MBRP = Any control/comparison; **AOD use (frequency, quantity):** MBRP = Any control/comparison. **Treatment retention:** MBRP = Any control/comparison. **Depression and anxiety symptoms:** MBRP = Any control/comparison (greater reductions in stimulant use vs other AOD use). **Mindfulness**: MBRP = Any control/comparison. **Health-related quality of life:** MBRP > active intervention (relapse prevention alone)	No Yes No
Lee et al. 2015	All included studies (n=10) 2004–2014	US, Australia (others not reported) RCT	ACT	Face-to-face individual and/or group; or digital (web-, app-based with minimal or no face-to-	Mixed	In community/ general population (telephone or digital; web-, app-based);	Active treatment (e.g. CBT; structured treatment condition incl. pharmacother	AOD abstinence (post-treatment, longest FU)	**AOD abstinence:** ACT>Active treatment (post-treatment, effects similar for smoking cessation vs other AOD abstinence); ACT>Active treatment (longest FU);	Not reported Not reported Yes

Question 1. ***Mindfulness-based interventions incl. Acceptance Commitment Therapy***

Publication reference	Study references Study year/s	Study location/s Study design/	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				face)		Specialist clinic; residential; prison	apy; TAU)		ACT>CBT (at longest FU)	
Li et al. 2017	All included studies (n=42) 1986–2015	Not reported	MBI (e.g., MBSR, MBRP, MM, Mindfulness Training) +/- TAU or another intervention	Multi-sessions, in group	Mixed	Residential rehabilitation; jail-based rehabilitation facility; in laboratory	TAU, usual care (incl. psychotherapy, coping skills training, cognitive restructuring, relaxation techniques, education/vocational program, +/- pharmacotherapy), another intervention (CBT, FFS, CBT-based RP)	AOD use reductions at post-treatment and FU (frequency and quantity); Psychiatric distress and negative affective states; Stress; Pain severity/functional interference; Mindfulness; Emotion regulation	**AOD use reductions at post-treatment and FU (frequency and quantity):** MBI>Control/Comparison (All studies except n=1). **Psychiatric distress and negative affective states:** MBI>Control/Comparison (5 studies); **Stress:** MBI>Control/Comparison (3 studies). **Pain severity/functional interference; Mindfulness; Emotion regulation:** MBI>Control/Comparison (all outcomes 1 + studies)	Yes Yes Yes

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Levels II to III (Based on meta-analytic review of RCTs and Non-Randomised Controlled Trials; Cavicchioli et al. 2018)	**B** (Combination of Level II and III studies, with the largest proportion rated as being of low risk of bias)	**B–C** (Heterogeneity in findings on some outcomes could not be explained due to a paucity of studies)	**C–D** (MBIs appear to offer clinically significant, albeit preliminary advantages over other therapeutic approaches on AOD use-relevant outcomes such abstinence, perceived stress)	**B–C** (Populations included in the reviewed studies appear mostly similar to the target population, further research needed to ascertain the effects for specific populations, e.g. those with co-occurring versus non co-occurring AOD use)

Question 1. ***Other counselling interventions***

Publication reference	Study reference Study years Study design/s	Study location/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Amato et al. 2011a	Chawarski 2008, 2011 Czuchy 2009 Fiellin, 2006 Magura, 2007 Matheson 2010 McLellan 1993 1993–2008	US, Scotland, Malaysia, China RCT	Counselling + pharmacotherapy	Counsellor-, pharmacist- or nurse-delivered, manual guided; 10 weeks–3 months	Opioid	Outpatient	Standard pharmacotherapy (alone)	Opioid abstinence; Treatment retention	**Opioid abstinence:** Counselling + pharma = pharma alone. **Treatment retention:** Counselling + pharma = pharma alone	Not reported Not reported No
Amato et al. 2011b	Katz 2011 Rawson 198 1983, 2011	US, Scotland, Malaysia, China RCT	Structured counselling + pharmacotherapy	Multi-session individual counselling; psychoeducation and/or psychotherapeutic focus	Opioid	Specialist AOD inpatient unit	Standard pharmacotherapy (alone)	Opioid treatment retention	**Treatment retention:** Counselling + pharma > Pharma alone	Not reported Not reported Yes
Apollonio & Bero 2016	Burling 2001 Campbell 1995 Carmody 2012 Cooney 2015 Grant 2003 Joseph 2004 Kalman 2001 Martin 1997 Nieva 2011 Reid 2008 Winhusen 2014 1995–2015	US RCT, Cluster RCT	Counselling + pharmacotherapy	Multi-session individual or group counselling	Tobacco	Specialist AOD inpatient/rehabilitation; or specialist AOD outpatient	Counselling + placebo or usual care (or both)	Tobacco abstinence	**Tobacco abstinence:** Counselling + pharma > Control/Comparison	Not reported Not reported Yes

Question 1. ***Other counselling interventions***

Publication reference	Study reference Study years	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Darker et al. 2015	King et al. 2009 2009	US RCT	E-counselling	Electronic delivery (internet-based) of visual and verbal-based manualised therapy	BZDs	Specialist AOD inpatient, outpatient	Onsite counselling (same content)	Discontinuation of BZDs	**Discontinuation of BZDs:** e-counselling = onsite counselling	Not reported Not reported Yes
Gates et al. 2016	Fischer 2012 2012	US RCT	Drug counselling and education.	Single-session delivered verbally and in workbook form	Cannabis	University-based research facility	Another intervention (Non-drug education/health promotion)	Cannabis-related problems	**Cannabis-related problems:** Counselling > Another intervention (at 3 and 12 m FU)	Not reported Not reported Yes
Lancaster & Stead 2017	All studies (n=49) 1988–2016	US RCT, quasi-RCTs	Individual behavioural counselling +/- pharmacotherapy	Delivered individually by smoking cessation counsellor (social worker, psychology, psychiatry, health education and nursing backgrounds); more and less intensive variants; delivered face-to-face and/or via telephone.	Tobacco	Primary-care and community-based clinic; inpatient; residential; general population volunteers; workplace	Minimal contact control (e.g. brief advice, usual care, provision of self-help materials); less intensive/brief counselling; other counselling interventions of similar intensity	Smoking cessation at longest FU	**Smoking cessation at longest FU:** Counselling > Minimal contact (larger effects for counselling when used as monotherapy rather than adjunct to pharma); More intensive = Less intensive; No differences between counselling approaches (n=4/5)	Not reported Not reported Yes

Question 1. ***Other counselling interventions***

Publication reference	Study reference Study years	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				Some studies included supplementary written, video, and audio-based materials						

Level of evidence (based on best available evidence)	**Quality of evidence assessment** – **Evidence base (A–D)**	**Quality of evidence assessment** – **Consistency (A–D)**	**Quality of evidence assessment** – **Clinical impact (A–D)**	**Quality of evidence assessment** – **Generalisability (A–D)**
Level II–III Evidence (Based on Cochrane Systematic Review of RCTs and quasi-Randomised Controlled Trials; Lancaster et al. 2017)	**B and C** (Systematic review pooling results from Level II and III studies with mostly low to moderate/unclear risk of bias)	**B** (Most studies consistent and inconsistencies can be explained by whether counselling was used as a standalone therapy or adjunct to pharmacotherapy)	**B and C** (Counselling interventions appear effective across a variety of routine clinical care settings and have moderate to substantial impact on smoking cessation with relative increases of 40–80%)	**B** (Studies included a range of populations, including high-risk special populations, across a range of settings in countries including Australia and others with similar healthcare systems)

Question 1. ***Self-help groups***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Beck et al. 2017	Atkins & Hawdon 2007 Blatch et al. 2016 Bogdonoff 2002 Brooks & Penn 2000, 2003 Blatch et al. 2016 Guarnotta 2014 Hester at al. 2013 Milin 2007 Trumble 2015 2000–2016	US, others not reported RCT (n=1); pre-/post-design (n=1); quasi-experimental pseudoprospective study (n=2); cross-sectional (n=7)	SMART Recovery group format; 12-step program; AA	Group format (of any frequency or intensity); face-to-face +/- online	Mixed	In-community; outpatient	SMART Recovery-informed online intervention (alone or in combination); 12-step program; AA	AOD abstinence; AOD use; alcohol-related problems; Addiction severity (for alcohol, other drugs); Addiction severity	**AOD abstinence:** SMART group = SMART online + SMART group (3 m FU; RCT); SMART group = AA (cross-sectional). **AOD use reductions:** SMART group = SMART online + SMART group (3 m FU; RCT); SMART group = 12-step (pre-postintervention). **Alcohol-related problems improvements:** SMART group = SMART online + SMART group (3 m FU; RCT); SMART group > AA (cross-sectional); **Addiction severity improvements:** SMART group < 12-step program (alcohol only, not drugs; pre-post intervention); SMART group > AA (cross-sectional); **Functioning:** SMART group > 12-step program (only	Yes Yes Yes

Question 1. ***Self-help groups***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
									employment, psychiatric hospitalisations); SMART group > AA (cross-sectional)	
De Crescenzo et al. 2018	**Carroll 1998,** 2012 Crits-Cristoph 1999 Donovan 2013 1998–2013	US RCT	12-step program	Not reported	Mixed	Outpatient	TAU	AOD abstinence; Treatment retention (drop-outs)	**AOD abstinence:** 12-step program>TAU. **Treatment retention (drop-outs):** 12-step program>TAU	Not reported Not reported Yes
Klimas et al. 2018	**Carroll 1998** 1998	US RCT	12-step program	Individual, Face-to-face	Alcohol	Specialist AOD outpatient clinic	CBCST; Individual, face-to-face	Alcohol abstinence (during treatment, at FU); Illicit drug use abstinence (during treatment, at FU); Treatment retention at EOT	**Alcohol abstinence:** 12-step program = CBCST (all measures) **Illicit drug use abstinence:** 12-step program = CBCST (all measures). **Treatment retention at EOT:** 12-step program = CBCST	Not reported Not reported No
Minozzi et al. 2016	**Carroll 1998,** 2012 Maude-Griffin 1998 Scottenfeld 2011 1998–2012	US RCT	12-step program +/- pharmacotherapy	Group and/or individual (face-to-face); or not reported.	Mixed	Outpatient	No intervention; CBT	Treatment retention/dropout; Abstinence at EOT (point prevalence, continuous); Abstinence a	**Treatment retention/dropout:** 12-step program = no intervention; 12-step program = CBT. **Abstinence at EOT:** 12-step program = No	Not reported Not reported No

Question 1. ***Self-help groups***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control Groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
								longest FU (continuous)	intervention (point prevalence); 12-step = CBT (continuous). **Abstinence at longest FU:** 12-step program < CBT (continuous)	
Ullman et al. 2012	Brown et al. 2002 Delucchi & Kaskutas 2010 Humphreys et al. 1994 Laudet 2006 Moos et al. 2006 Timko et al. 2000, 2002, 2005 1994–2010	Not reported Cross-sectional, observational with FU; RCT	AA or other 12-step program	Rehabilitation facility; not reported	Alcohol	In-community; Outpatient	No control/comparison; TAU (e.g., traditional behavioural treatment; RP)	Positive drinking outcomes (e.g. consumption, alcohol-related problems; alcohol-related help-seeking); Abstinence; Psychosocial outcomes (e.g. QOL, stress, coping)	**Positive drinking outcomes:** women > men AA (mixed findings); women AA > women TAU, **Abstinence rates:** women > men in AA (mixed findings). **Psychosocial functioning:** women = men in AA (mixed findings)	Yes Yes Yes

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level II Evidence (Based on synthesis of studies in a systematic review of RCTs, De Crescenzo et al. 2018)	**B to C** (Systematic review pooling results from Level I studies with mostly low to moderate/unclear risk of bias)	**B** (Some inconsistencies which can be explained by the type of Comparator/Control; TAU versus CBT)	**C–D** (May inform clinical guidelines to some extent, but more research needed)	**C–D** (Unclear whether findings would extend to other AOD use populations aside from individuals with problematic use of psychostimulants; all included studies conducted in the USA, thus uncertain whether generalisable to the Australian healthcare context)

Question 1. ***Psychodynamic and psychoanalytic interventions***

Publication reference	**Study references** **Study year/s** **Study location/s** **Study design/s**	**Details of psychosocial intervention**	**Delivery mode/s of intervention**	**Substance type treated**	**Setting**	**Comparison/ Control Groups**	**Outcomes**	**Results relating to question**	**Positive outcomes: General health** **Wellbeing** **Harm reduction**
Amato et al. 2011a	Thornton et al. 1987 Rounsaville et al. 1983 Woody et al. 1995 1983-1995 US RCTs, controlled clinical trial	Psychoanalytic (Interpersonal Therapy) + agonist maintenance treatments	In-person, clinician-led treatment over multiple weeks (individual or group)	Opioid	Outpatients	Pharmacotherapy maintenance treatment	Opioid abstinence; Treatment retention	**Opioid abstinence:** Psychoanalytic + pharma = pharma alone **Treatment retention**: Psychoanalytic + pharma = pharma alone	Not reported Not reported No
De Crescenzo et al., 2018	**Crits-Cristoph et al. 1999** 1999 US RCTs	Supportive-expressive psychodynamic therapy (SEPT) + group drug counselling	Individual session, in-person, multiple sessions	Psychostimulants (Cocaine)	Outpatient, not specified	12-step programs, CBT, TAU	Abstinence, Treatment retention	**Abstinence**: SEPT < TAU (at 12 wks.); SEPT = TAU (EOT, longest-FU) **Treatment retention:** SEPT = TAU (at 12 wks.); SEPT = TAU (EOT)	Not reported Not reported No
Minozzi et al. 2016	**Crits-Cristoph et al. 1999** Carroll et al. 1991, 2004 1991-2004 US RCTs	Interpersonal therapy, psychodynamic therapy	Individual session, in-person, multiple sessions	Psychostimulants	Outpatient	Other psychosocial interventions (CBT, counselling)	Abstinence, Treatment retention	**Abstinence (point, continuous):** CBT = Interpersonal (EOT, longest FU); Interpersonal = individual counselling (EOT, longest FU) **Treatment retention**: CBT = Interpersonal, Interpersonal = individual counselling	Not reported Not reported No

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment –- Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Could not be determined based on current review of the secondary literature (pooled findings show no intervention-related effects on outcomes)	Could not be determined	Could not be determined	Could not be determined	Could not be determined

Appendix E—Question 2 review characteristics and evidence grading.

Appendix E. Question 2 review characteristics and quality of evidence assessment.

Question 2. ***Pregnancy and postpartum***

Publication reference	**Study references** **Study year**	**Study location/s** **Study design/s**	**Details of the special population**	**Details of the psychosocial intervention**	**Delivery mode/s of intervention**	**Substance type treated**	**Setting**	**Comparison/ Control groups**	**Outcomes**	**Results relating to question**	**Positive outcomes: General health** **Wellbeing** **Harm reduction**
Chamberlain et al. 2017	All included studies (n = 102) 1976–2015	US, UK, Norway, Holland, the Netherlands, Sweden, Spain, Poland, Australia, New Zealand, South America (1) RCTs, cluster-RCTs, quasi-RCTs, randomised cross-over trials	Women who are currently smoking or have recently quit smoking and are pregnant (in any care setting) or are seeking a pre-pregnancy consultation. Health professionals in trials of implementation strategies of psychosocial interventions to support pregnant women to stop smoking	Non-pharmacological strategies using aspects of CBT, MI and supportive therapies to help women to quit, including counselling, health education, feedback, financial incentives, social support from peers and/or partners, exercise, as well as dissemination trials	Various: single or multi-session, clinician or healthcare provider-delivered, +/- written materials	Tobacco	Residential and community settings, family planning clinics, pre-pregnancy planning clinics or general practitioner clinics, prenatal care clinics and hospitals	Usual care, less intensive intervention, alternative interventions	**Primary outcome:** Smoking abstinence in late pregnancy (point prevalence, self-reported or biochemically validated) **Secondary outcomes:** Continued abstinence in late pregnancy after spontaneous quitting (relapse prevention), in early pregnancy (self-reported or biochemically validated), smoking abstinence in the postpartum period (self-reported or biochemically validated),	**Smoking abstinence:** COUNSELLING (late pregnancy)**:** counselling > usual care; counselling > less intensive intervention, (early pregnancy) no clear effect (at 0–5 m & 12–17 m postpartum) counselling > control (6-11 m postpartum, borderline effect, unclear when it was part of a broader mental health intervention/when one type of counselling was compared to another). HEALTH EDUCATION: health education > usual care (borderline effect);	Yes Not reported Yes

Question 2. ***Pregnancy and postpartum***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
									smoking reduction from the first antenatal visit to late pregnancy (self-reported, or biochemically validated), biochemical measures (cotinine and thiocyanate), cigarettes p/day, perinatal outcomes, birthweight, preterm births, stillbirths, neonatal deaths, all perinatal deaths, neonatal intensive care unit admissions, mode of birth, breastfeeding initiation and breastfeeding at three and six months after birth, anxiety, depression, maternal health status (late	health education > less intensive interventions (moderate effect); health education > alternative intervention (moderate effect); health education part of broader mental health intervention (moderate effect). FEEDBACK: feedback > usual care; feedback + counselling > control; feedback vs less intensive interventions (uncertain effect). INCENTIVE-BASED INTERVENTION: incentive-based intervention > alternative, non-contingent incentive intervention. SOCIAL SUPPORT FROM PEERS: Unclear effect for social support by	

Question 2. ***Pregnancy and postpartum***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
									pregnancy and after birth), impact on family functioning and other relationships in late pregnancy and postpartum, views of the interventions, care providers' views, measures of knowledge, attitudes and behaviour of health professionals, cost-effectiveness, adverse effects of smoking cessation programs	itself and social support as part of broader mental health intervention. **Secondary outcomes**: psychosocial interventions > control for reduction in infants born with low birthweight, higher mean birthweight, reduction in neonatal intensive care unit admissions; but unclear effect on preterm births and stillbirths	
Fergie et al. 2019	All included studies (n = 9) 1990–2014	US, the Netherlands, UK RCTs, cluster RCTs	Pregnant women who consume alcohol or illicit drugs	Behaviour change techniques (BCT; includes action planning, behavioural contract, prompts/cues, self-talk,	Clinician or computer-delivered	AOD	Clinics, hospitals, specialist children centres, midwife practices	Usual care, no intervention	Alcohol and illicit drug use during pregnancy	**Alcohol use:** BCTs > control (4 RCTs). **Illicit drug use**: BCTs = control	Not reported Not reported Yes

Question 2. ***Pregnancy and postpartum***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				offer/direct toward written material, problem solving, feedback on behaviour, SS, information about health consequences, behaviour substitution, assess current readiness and ability to reduce excess alcohol consumption, goal setting (behaviour), and tailor interactions)							
Hettema & Hendricks 2010	Ershoff et al. 1999 Rigotti et al. 2006 Ruger et al. 2008 Stotte et al. 2004 Stotts et al. 2002 Suplee 2005	US, Australia, Ireland, Sweden, Spain Controlled trials	Adults (mean age > 18 yrs) or adolescent samples (mean age < 18 yrs), this included pregnant women	MI	Single- or multi-session; delivered by combination of mental health or medical health professionals; technology-assisted (telephone	Tobacco	Community, primary care centre, residential care, university	Combination of minimal interventions (e.g. placebo, no treatment, attentional control) +/- intensive interventions (+/- pharmacotherapy)	Smoking cessation	**Smoking cessation at short- and long-term**: MI = control (no effect seen in any of the included studies on pregnant women)	Not reported Not reported No

Question 2. ***Pregnancy and postpartum***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Tappin et al. 2005 Tappin et al. 2000 1999–2008				and computer)						
Livingstone-Banks et al. 2019	**Pregnant:** Ershoff 1995 Secker-Walker 1995 Lowe 1997 Secker-Walker 1998 McBride 1999 Hajek 2001 McBride 2004 Pbert 2004 Morasco 2006 Ruger 2008 Reitzel 2010 Brandon 2012 Levine 2016 Pollak 2016) or **Post postpartum:** Severson 1997 Ratner 2000 Van Hof 2000 Hannöver 2009	US, UK, Canada, Germany RCTs, quasi-RCTs	Pregnant and postpartum women	BIs +/- pharmacological interventions	Group meetings, face-to-face sessions, written material, telephone	Tobacco	Community, outpatient clinic, inpatient hospital, home	No intervention, alternative interventions	Prolonged or multiple point prevalence abstinence at FU(6-m)	**Point-prevalence abstinence**: Behavioural interventions = control (end of pregnancy and postpartum)	No Not reported Yes

Question 2. ***Pregnancy and postpartum***

Publication reference	**Study references** **Study year**	**Study location/s** **Study design/s**	**Details of the special population**	**Details of the psychosocial intervention**	**Delivery mode/s of intervention**	**Substance type treated**	**Setting**	**Comparison/ Control groups**	**Outcomes**	**Results relating to question**	**Positive outcomes:** **General health** **Wellbeing** **Harm reduction**
	1995–2016										
Stade et al. 2009	All included studies (n = 4) 1995–2007	US RCTs	Pregnant women or women planning pregnancy who consume alcohol, and who are participating in studies examining psychological or educational interventions to reduce alcohol use	Psychological and educational interventions	In-person, with written material, one session intervention	Alcohol	Health clinics, GP setting, community-based	TAU	Abstinence from alcohol during pregnancy, reduction of alcohol consumption during pregnancy to < seven standard drinks a week	**Abstinence**: psychological and educational interventions > control. **Alcohol consumption**: inconsistent evidence on the effect of psychological and educational interventions. **Birthweight:** control > interventions (only slightly heavier at birth)	No Not reported Yes
Terplan et al. 2015	All included studies (n = 14) 1995–2012	US, Australia RCTs	Pregnant women enrolled in illicit drug treatment programmes for any treatment of substance abuse or dependence of any drug. The study also	CM, MI-based interventions +/- MMT	Group or individual counselling, weekly check-ups, multiple sessions	Various: cannabis, heroin, cocaine, amphetamines	Drug treatment facilities (either academic- or hospital-based) within outpatient and inpatient settings	Usual care with pharmacological treatment (such as MMT), other interventions such as counselling, prenatal care (PNC), STD counselling	Maternal toxicology; maternal self-reported drug use; adverse events for the mother of the child	**Maternal toxicology (urine toxicology) at delivery:** MIB = control; CM > control [minimal and transient effect]. **Maternal toxicology (urine toxicology) at end of treatment**: MIB = control	Not reported Mixed Mixed

Question 2. ***Pregnancy and postpartum***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			included women on methadone treatment					and testing, transportation, and/or childcare, or no intervention			

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level II–III Evidence for counselling (CBT, MET, or SS-based) and for incentive-based interventions/CM (based on Cochrane Systematic Review & Meta-analysis; Chamberlain et al. 2017)	**B** (Based on mostly Level II/III studies with overall low risk of bias)	**B** (Inconsistencies able to be explained, e.g., due to differences in the control/comparison, stage of pregnancy etc.)	**B–C** (Large number of studies providing high-quality evidence to support effectiveness).	**B–C** (Evidence derived from a selective group of women who smoke during pregnancy; low participation rates often reported so findings may not apply more broadly).

Question 2. ***Co-occurring alcohol/other drug and mental health conditions***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Aldi et al. 2018	**Hall et al. 2006** Batra et al. 2010 MacPherson et al. 2012 Schleicher et al. 2012 Brown et al. 2014 Bernard et al. 2015 Hall et al. 1994 Hall et al. 1996 Hall et al. 1998 Covey et al. 1999 Brown et al. 2001 Hall et al. 2002 Haas et al. 2004 Brown et al. 2007 Killen et al. 2008 1994–2015	Not reported RCTs	Smokers with current or past history of major depression or depressive symptoms. Major depression had to be diagnosed according to the diagnostic criteria of the Research Diagnostic Criteria, the DSM, or the ICD	CBT or MI-based, counselling, mood management +/- pharmacotherapy	Various: Multiple-session, computer-delivered, in-person, group or individual	Tobacco	Not reported	Patients who smoke and are diagnosed with past MDD, placebo	Smoking cessation at the EOT and FU visits; side effect rates; dropout rates	**Smoking cessation**: CBT > health education (among subjects with recurrent MDD over a 12m FU)	Not reported Not reported Yes
Baker et al. 2012	All included studies (n = 8) 2001–2009	Australia, US, the Netherlands, Canada RCTs	Individuals with unipolar depression, dysthymia or anxiety disorders and co-occurring alcohol misuse	Non-pharmacological treatments for either alcohol misuse alone or alcohol misuse and mood or anxiety disorders – BI, CBT, MI, interpersonal psychotherapy	Various: Multiple-session, computer-delivered, in-person	Alcohol	Various, including hospitals	No treatment, WL control, TAU	Alcohol use: occasions of alcohol use p/day, days of alcohol use p/week/month, days of heavy drinking, percentage of days abstinent from drinking	**Alcohol consumption reduction**: MI and CBT > control. Longer BI was associated with **better outcomes for both alcohol consumption and MH outcomes**	Not reported Yes Yes

Question 2. ***Co-occurring alcohol/other drug and mental health conditions***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Cleary et al. 2008	All included studies (n = 54) 1991–2008	Australia, UK, US, Canada, Honduras (1) RCTs, non-experimental studies, systematic review (1)	People with co-occurring severe mental illness and substance misuse	CBT, MI, CM	Various: Multiple-session, computer-delivered, in-person, individual or group format	Various	Inpatient/Outpatient	Standard care, or other active interventions (including group therapy, family support, self-help booklet, psychoeducation, 12-step recovery, supported employment)	Substance use, mental state, treatment retention	**Substance use:** CBT = control (no improvement); MI > control; MI + CBT > control; CM > control **Mental state**: CBT = control (no improvement); MI + CBT > control	Not reported Yes Yes
Hesse 2009	All included studies (n = 5) 1996–2008	Not reported RCTs	Adults with co-occurring anxiety/depression and substance use disorders. Participants had been selected for depressive or anxiety symptoms or a diagnosis of depression or anxiety	CBT, MI, CM +/- pharmacotherapy	Various: Multiple-session, computer-delivered, in-person	Various	Inpatient clinics, hospitals, various	TAU or other active interventions (including currents events group, relaxation training, 12-step programs, supportive psychotherapy)	Data on retention, psychiatric symptoms or substance use outcomes (post-treatment and/or at FU). Substance use outcomes were reported as percent days abstinent (PDA) as measure of substance use severity	**Depression and substance use:** (at FU): Integrated treatment > control. **Retention and psychiatric symptoms:** experimental = control groups **Anxiety and substance use**: integrated treatment = control; patients in 'substance use only' arm can fare better than both	Not reported No Yes

Question 2. ***Co-occurring alcohol/other drug and mental health conditions***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										anxiety and substance use disorders	
Hides et al. 2009	All included studies (n = 7) 2003–2014	US RCTs	Individuals (adults and adolescents) with co-occurring DSM or ICD depression and substance use disorder (excluding nicotine) derived using a structured clinical interview were included. Where possible, those with psychosis, bipolar disorder and intellectual disability were excluded as these individuals	Various psychosocial interventions including CBT, MI, CM, 12 step programs, BT FFT	Various: Multiple-session, computer-delivered, in-person, group and/or individual	Various (excluding nicotine)	Various including outpatient setting, prison-based	Other psychological interventions (12-step programs, relaxation intervention, narrative therapy, prescriptive therapy) or TAU (defined according to study setting but typically consists of case management)	**Depression:** changes in symptom severity on a standardised questionnaire or presence of DSM/ICD disorder on a structured clinical interview, **Substance use**: changes in the frequency (including abstinence), quantity, severity of use measured by calendar-based methods and self-report instruments. **Treatment retention, treatment attendance**	**Substance use:** ICBT > TSF (6 to 12m, very low quality), IPT-D = brief supportive psychotherapy/psychoeducation (measured via percentage of days abstinent/risk of relapse), CBT = other psychological interventions (relaxation), FFT + CW < sequenced treatment, CWD+FFT > FFT+CWD for substance (at post-treatment) **Treatment attendance or retention:** ICBT = TSF, CBT = other psychological treatments (relaxation), Integrated FFT +	Not reported Not reported Yes

Question 2. ***Co-occurring alcohol/other drug and mental health conditions***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			form distinct clinical groups with specific needs							CWD > sequenced treatments	
Hunt et al. 2019	All included studies (n = 41) 1991–2018	US, Australia, UK, Ireland, Denmark, Germany RCTs	Individuals with co-occurring mental illness and substance use. People with mental illness were included if they had been diagnosed with a severe mental illness (for example, mixed patient populations with schizophrenia, bipolar disorder, major depression and other psychosis) and	CBT, MI, CM, skills training	Various: Multiple-session, computer-delivered, in-person, group and/or individual	Various	Hospital-, community- and prison-based	Standard care	**Alcohol use**: as measured in the trials. **Drug use**: as measured in the trials. **Mental state:** as measured in the trials, and if no specific scale assessment was done, reported on relapse or hospitalisation	**Cannabis use**: CBT = standard care (6-m) **Mental state**: CBT = standard care (3-m, low quality evidence), MI= standard care (low quality evidence) **Alcohol abstinence:** MI > standard care **Other substance use:** MI= standard care (low quality evidence), CM = standard care (measured via number of positive urine tests, 6-m, low quality evidence), CBT + MI = standard care in (6-m, low quality evidence) **Relapse**: CBT + MI = standard care	No No Mixed

Question 2. ***Co-occurring alcohol/other drug and mental health conditions***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			concurrent problem of substance misuse							(12-m). **Hospitalisations**: CM = standard care (low quality evidence) **Mortality**: skills training = standard care (12m, low quality evidence), CBT + MI = standard care (measured via number of deaths, 12m, low quality)	
Lee et al. 2015	All included studies (n = 10) 1999–2011	Not reported RCTs	Individuals with co-occurring substance use and borderline personality disorders (BPD)	DBT, Dynamic deconstructive therapy (DDP), Dual-focused schema therapy (DFST) +/- pharmacotherapy	Individual or group therapy, in-person, weekly, multiple sessions	Various	Inpatient and outpatient	TAU, other active interventions (including comprehensive validation therapy, optimised community care, individual drug counselling, 12-step programs, community treatment by experts,	Co-occurring substance use and bipolar personality disorder (including suicidal/self-harm behaviours)	**BPD, suicidal behaviour and self-harm reduction:** DBT > control (TAU and other non-validated manualised comparison treatment, more effective in women) **Substance use**: DBT > control (TAU and other non-validated manualised comparison treatment, more effective in women)	Not reported Yes Yes

Question 2. ***Co-occurring alcohol/other drug and mental health conditions***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
								substance abuse counselling, Structured Clinical Interview for DSM)		**Alcohol use disorders and BDP**: DDP > TAU **Substance use**: DFST > control **Treatment utilisation**: DPP and DFST > control **Global and social functioning**: DBT > control	
Ripper et al. 2014	All included studies (n = 12) 1997–2013	Ireland, Australia, US Meta-analysis	Individuals with comorbid alcohol use disorder and major depression	Combination of CBT and MI	Multiple sessions, in-person	Alcohol	Outpatient clinic, healthcare settings	TAU, alternative psychological treatment	Alcohol consumption measures: abstinence, number of days to first drink, number of drinks per drinking day, mean drinking per week, AUDIT	**Alcohol consumption**: CBT/MI > control (small effect size, effect maintained and increased at FU) **Depressive symptoms:** CBT/MI > control (maintained at FU) Higher number of CBT/MI sessions were associated with **negative alcohol outcome**	Not reported Yes Yes
Secades-Villa et al. 2017	Bernard et al. 2015 Catley et al. 2003	Not reported RCTs and secondary	Adult smokers with current major depression or	The studies included either pharmacological interventions or	Not reported	Tobacco	Hospital, research centre, home,	Other active interventions	Smoking abstinence	**Smoking abstinence**: intervention (overall) > control	Not reported Not reported

Question 2. ***Co-occurring alcohol/other drug and mental health conditions***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Cinciripini et al. 2010 **Hall et al. 2006** Hayes et al. 2010 Japuntich et al. 2007 Munoz et al. 1997, 2006, 2009 Patten et al. 2017 van der Meer et al. 2010 Vickers et al. 2009 1997–2017	studies (not specified)	depressive symptoms. Depression was assessed using reliable and valid tools for depression assessment (i.e., structured or semi-structured interviews based on DSM criteria or multi-item scales).	psychological interventions, or a combination of both. Psychological interventions included mood management, CBT, counselling, MI, MET, self-help etc.			internet, outpatient clinic, dental clinic			(at < 3 m & > 6 m FU), psychological interventions = control (short and long-term FU, the strongest effect was seen for behavioural activation (BA) techniques given simultaneously for depression and smoking cessation long-term)	No
Torchalla et al. 2012	All included studies (n = 17) 1998–2009	Not reported RCTs, controlled clinical trials	Individuals were recruited to the studies if they met the following criteria (a) meet diagnostic criteria for substance abuse or dependence and/or be	*Integrated psychotherapeutic treatment (IT): A* coordinated and simultaneous focus on both substance use and trauma issues within the same service and by the same (team of) clinicians. The	None	Various	Not reported	TAU, RP, standard community care (SCC), 12 step, health education	Substance use and PTSD symptoms	**Posttraumatic Stress Disorder**: TAU+IT = TAU, IT = RP, IT>SCC, IT = health education, SUD + trauma specific treatment > SUD, IT > self-selected treatment, IT = SUD, SDPT = 12 step **Substance Use Disorder**: TAU+IT = TAU, IT = RP,	Not reported Yes Mixed

Question 2. ***Co-occurring alcohol/other drug and mental health conditions***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			seeking SUD treatment and (b) report a history of psychological trauma and/or the presence of PTSD symptoms	IT programs in the selected studies were: CBT for PTSD in addiction treatment programs, CTPCD, DART for co-occurring disorders, Seeking Safety, SDPT, TRANSCEND, TARGET, TREM, Integrated Tobacco Cessation Treatment						IT>SCC, IT = health education, integrated tobacco cessation treatment + TAU > TAU, SUD + trauma specific treatment = SUD, IT = SUD, SDPT = 12 step *measured at longest FU point **MH**: TAU+IT = TAU, IT = RP, integrated tobacco, IT > self-selected treatment cessation treatment + TAU = TAU, SUD + trauma specific treatment > SUD, IT > self-selected treatment, IT = SUD, SDPT = 12 step	
van der Meer et al. 2013	All included studies (n = 49) 1994–2010	US, Germany, the Netherlands	Adult smokers with current or past depression. Current	**Psychosocial mood management** was defined as: group or individual	Clinicians, nurse-led	Tobacco	Hospital outpatient, community and quit line, mental health	Different pharmacobehavioural treatment or modified smoking	Smoking status at a minimum of 6-m from the quit day	**Long-term smoking cessation**: psychosocial mood management > control (smokers	Not reported Not reported Yes

Question 2. ***Co-occurring alcohol/other drug and mental health conditions***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
		RCTs	depression was defined as current major depression (according to the DSM-IV criteria) or depressive symptoms (use of multi-item scales as measures of depression, for example Beck Depression Inventory or Center for Epidemiologic Studies Depression Scale, or use of a single item question as a measure of depression). Past depression was defined as past major depression	counselling, self-help or exercise, or hypnosis intended to influence negative mood and improve depression symptoms above and beyond standard smoking cessation counselling. **Psychosocial interventions only**			outpatient, smoking cessation specific clinics, university, medical centre	cessation, telephone-based general support, placebo, health education control		with current and past depression).	

Question 2. ***Co-occurring alcohol/other drug and mental health conditions***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			(according to the DSM-IV criteria) or depressive symptoms (use of multi-item scales as measures of depression or use of a single item question as a measure of depression)								

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment– Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level II Evidence for CBT + MI (Based meta-analysis of RCTs and non-randomised controlled trials; Riper at al. 2014)	**B** (Combination of level II/II studies with overall low risk of bias)	**B** (Heterogeneity low overall; inconsistencies explained in terms of associations between study characteristics and difference in magnitude in effect size)	**C–D** (Slight impact due to small effect sizes observed on outcomes; but impact may be larger given high prevalence of comorbid conditions)	**C** (Included both RCTs and non-randomised studies and found no difference; all but one included study involved outpatients only which may limit generalisability)

Question 2. ***Older people***

Publication reference	**Study references** **Study year**	**Study location/s** **Study design/s**	**Details of the special population**	**Details of the psychosocial intervention**	**Delivery mode/s of intervention**	**Substance type treated**	**Setting**	**Comparison/ Control groups**	**Outcomes**	**Results relating to question**	**Positive outcomes: General health** **Wellbeing** **Harm reduction**
Bhatia et al. 2015	All included studies (n=13) 2009–2014	US, Australia, UK, Denmark, Finland, Canada, Croatia Individual and cluster RCTs, quasi-randomised trials, quasi-experimental studies, non-randomised intervention studies	Adults over the age of 50 years	Counselling (facilitating stepwise reduction of psychotropics); lecture (on effects of psychotropics); advice from general physician (on reducing drug use); self-help booklet (on coping with withdrawal); educational leaflet (on associated problems); booklet (based on social constructivist learning and self-efficacy theory); self-assessment; tapering recommendations (visual tapering protocol); MI/BI	Various: physician-assisted, in-person, written materials, telephone-delivered, multiple sessions	Alcohol, nicotine, prescription medications, and illicit drugs	Healthcare: free standing smoking clinic, teaching hospital and general practice	Educational materials, TAU, WL, or given no treatment	**Substance use disorder** including disorders related to alcohol, nicotine, prescription medications, and illicit drugs	**Alcohol use**: interventions for at-risk drinking led to significant reductions in drinking amongst older patients, with two studies demonstrating positive long-term outcomes (12 m). **Tobacco use**: the impact of combined BI, telephone calls and NRT on daily cigarette consumption (at 6 m), 30+ day smoking cessation (at 12 m) and total abstinence (at 12 and 24 m). Extended treatments (comprising of CBT) have been found to result in high and stable abstinence rates (12 and 24 m). **Prescription medications**: Educational strategies,	Not reported Not reported Yes

Question 2. ***Older people***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										counselling appears to have an impact in the reduction of long-term prescription medication use by older patients (6 and 12 m)	
Kelly et al. 2018	All included studies (n=13) 1999–2014	US, UK, Denmark, Croatia RCTs, before and after intervention study (1)	Older people >55 years-old living in the community. This included healthy participants as well as those with pre-conditions such as high blood pressure, high cholesterol, overweight or obese, impaired cognitive function, functional limitations; on medication that did not affect	Intensive interventions included BIs with personalised feedback, education and telephone follow-up. The authors excluded treatment of alcohol dependence, prescription drugs, or interventions aimed at national policies, laws and taxation	Web-delivered, personalised reports, written materials, physician-delivered, telephone-delivered, feedback	Alcohol	Healthcare including GP clinic, primary care settings	Usual care, minimal intervention or no intervention	The authors measured absolute or risk measures of alcohol consumption	**Alcohol consumption reduction**: BI > control (small number of heterogenous studies); BI + personalised feedback, education and telephone follow-up (intensive interventions) > control. No evidence was found on the impact of alcohol prevention or reduction strategies on cognition or dementia, in older people	No Not reported Yes

Question 2. ***Older people***

Publication reference	Study references Study year	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			outcomes. Disadvantaged and minority groups were also included								

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment– Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level II/III Evidence for Psychosocial interventions incl. BI (based on systematic and meta-analytic review of RCTs and uncontrolled studies; Kelly et al. 2018).	**C–D** (Includes Level II - IV studies with mostly unclear to high risk of bias).	**C** (Evidence was mixed with regards to BI; ongoing uncertainty due to limited studies n=3).	**C** (Most of included studies included only a proportion of at-risk drinkers; little evidence on primary intervention of excessive drinking as well as impact on cognitive and dementia outcomes).	**B–C** (Overall, broadly inclusive review in terms of study participant characteristics; studies recruited limited proportion of at-risk drinkers which may limit generalisability and implementation in practice).

Question 2. ***Criminal justice system***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Grace 2017	Ross 2010 Sowards et al. 2006 Warner-Robbins & Parsons 2010 Sered & Norton-Nawk 2011 2006–2011	Not reported Not specified	Drug using women offenders'	Various: Interpersonal psychotherapy group, Alcoholics anonymous, narcotics anonymous, self-help, peer support and mentoring (not specified).	Group or individual	Various	Prison	Not reported	Drug use and resistance from offending	**Post-released drug use**: Psychosocial intervention was associated with increased likelihood (reported in one study in one intervention). **Relapse reduction**	Not reported Not reported Mixed
Li et al. 2017	All included studies (n = 42) 1986–2016	Not reported Quasi-experimental designs, RCTs	People involved with the criminal justice system	Mindfulness treatment including MBSR, MBRP, Mindfulness-Oriented Recovery Enhancement, and Vipassana Meditation courses	Group, multiple sessions	Various	Criminal justice system	TAU, usual standard care including chemical dependency treatment, substance use education, and educational and vocational programs	Substance misuse: abstinence, number of drinks	**Substance use reduction**: Mindfulness treatment > TAU (2-wks to 12-wks)	Not reported Not reported Yes
Newbury-Birch et al. 2016	All included studies (n = 15) 2003–2015	UK, Scotland, Wales, US RCTs or not specified	Individuals with alcohol use disorders and in the criminal justice system	BIs	Delivered by practitioners, 1- 4 sessions, 5-40 minutes, short sessions, with personalised feedback	Alcohol and marijuana	Magistrates court, prison, probation setting, police custody	Matched group control, leaflet, TAU, relaxation treatment	Arrests between groups, reoffend, injury, future clinic visit scheduled, abstinent days, marijuana	**Abstinent days**: MI > TAU **Marijuana consumption**: MI > relaxation training **Future clinic visit scheduled**: MI > TAU **Arrests between groups**: MI =	Not reported Not reported Yes

Question 2. ***Criminal justice system***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
									consumption	matched control group (6m) ; **Reoffend**: Brief advice > leaflet; **Injury**: MI > TAU (in one paper)	
Newbury-Birch et al. 2018	All included studies (n = 11) 1990–2014	US, UK RCTs, matched group	Individuals with alcohol use disorders and in the criminal justice system	MI, cognitive behavioural skills, lifeline counselling (reality therapy), 12-step programs, family counselling, relapse prevention, group treatment	One-on-one sessions with practitioners (e.g. trained facilitators, social worker, or pyschologist)	Alcohol	Prison, jail, juvenile correctional facility	TAU, information-only, assessment only, no assessment or another intervention	Engagement with VA substance abuse services, alcohol consumption, alcohol consumption per session, offences against property, less jail time serve, less arrests, abstinent days, reconviction, anger expression	**Alcohol consumption**: MI > TAU, MI = relaxation training, MI = educational videos, lifeline counselling = TAU, Group therapy > TAU **Alcohol consumption per session:** MI > TAU **Abstinent days**: MI > TAU **Engagement with VA substance abuse services**: MI > TAU **Anger expression**: Group therapy > TAU **Offences against property**: MI > TAU; **less jail time served**: Cognitive behavioural skills > TAU; **less arrests**: Cognitive behavioural skills > TAU; **reconviction**: Group therapy = TAU	Not reported Yes Yes

Question 2. ***Criminal justice system***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Perry et al. 2019a	All included studies (n = 13) 1996–2017	US, Spain RCTs	Female drug-using offenders, regardless of age or ethnicity. Drug misuse included individuals using occasional drugs, or who were dependent, or known to abuse drugs. Offenders were individuals who were subject to the criminal justice system	Psychosocial intervention such as therapeutic community programme, case management, CBT, interpersonal psychotherapy and MI	Clinicians, or psychologist. Individual or group therapy	Various	Prison community	No treatment, WL control, minimal and/or alternative treatment (e.g. reporting use of a similar intervention, but less intense or using a different theoretical approach, but the same components and/or a different alternative intervention), TAU (included combination of (i) a psychological base intervention (e.g. anger management, MI, counselling, aggression replacement, family therapy), (ii)	**Drug use measures** via self-reported drug use (unspecified drug use, specific drug use not including alcohol, Addiction Severity Index (ASI) drug composite scores); and biological drug use **Criminal activity** via self-report or official report of criminal activity, (including arrest for any o-once, drug offences and/or re-incarceration).	**Reduction in drug use** Interpersonal psychotherapy = psychoeducation (3-m) **Reduction in drug use/abstinence** ACT = wait list (6-m) Reduction in subsequent drug use DBT and case management = health promotion scheme (6-m); cognitive behavioural skills and standard therapy = TAU (3- and 6-m) **Incarceration** Cognitive behavioural skills and standard therapy = TAU (3- and 6-m)	Not reported Not reported No

Question 2. ***Criminal justice system***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
								an educational programme (e.g. health, substance abuse education on risky behaviour), and/or (iii) life skills (e.g. financial planning, employment skills, computer skills, interpersonal skills in interview)			
Perry et al. 2019b	All included studies (n = 13) 1999–2017	US, Spain, UK, Sweden RCTs	Adult (separate studies for male and female) drug-using offenders, juveniles in the criminal justice system. Designed to prevent relapse of	Psychosocial intervention (therapeutic community intervention, case management, CBT, interpersonal psychotherapy, MI, multi-systemic therapy (MST) involving	Many not reported, some clinicians, or psychologist. Individual therapy, group therapy, medication	Various drug	Special hospitals, prisons, or the community or were diverted from court or placed on arrest referral	TAU, WL control, minimal or alternative treatment, relaxation training, adolescent group substance abuse therapy, legal defence service	Drug use measures (self-reported drug use, biological drug use), criminal activity (re-incarceration to jail, conviction to a new crime)	**Self-reported drug use**: Therapeutic community intervention = CBT (women), mental health treatment=TAU, MI> relaxation training (marijuana), MI = waiting list control, MI = TAU, MST=TAU, interpersonal psychotherapy = psychoeducation	Not reported Yes Mixed

Question 2. ***Criminal justice system***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			drug use and/or criminal activity among drug-using offenders with co-occurring MH problems.	families and juveniles, legal defence service + wrap-around social work services) +/- pharmacological intervention (buprenorphine, methadone)			schemes for treatment			intervention. **Self-reported criminal activity**: Therapeutic community intervention > TAU (men), Therapeutic community intervention = CBT (women), Therapeutic community intervention = waiting list control, mental health treatment=TAU, MI>TAU, MST=TAU, MST = adolescent group substance abuse therapy, legal defence service and social work services > legal defence service only **HIV Risk**: therapeutic community > control (in some studies) **MH**: therapeutic community > control (in some studies)	

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level II Evidence for MI (based on 1 RCT identified in a Cochrane Systematic Review; Perry et al. 2019b)	**C** (Level II study with low or unclear risk of bias)	**C** (Inconsistency in findings for MI across studies with different control/comparisons; yet limited number of studies precludes any firm explanations).	**D** (Evidence from a single RCT involving self-report abstinence measures).	**D** (RCT involving adolescent sample only; unable to establish whether finding applicable to an adult population).

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Babowitch & Antshel 2016	All included studies (n = 15) 2000–2015	Not reported RCT, randomised trial, non-randomised trial	Adolescents with co-occurring depression and substance use	CBT, MET, FFT	Not reported	Non-tobacco related substances	Not reported	**TAU**	Substance use measures: **TLFB** – Time-line Follow-back. **SOCRATES** – Stages of Change Readiness and Treatment Eagerness Scale. **AUDIT** – Alcohol Use Disorder Identification Test. **RAPI** – Rutgers Alcohol Problem Index. **RMPI** –Rutgers Marijuana Problem Index. **Self-report**. **Urine drug toxicology**	**Substance use**: FFT > TAU; CBT has mixed effects on adolescent with co-occurring depression & substance use: it reduces reporting of depression, but this varies with outcome measure or parent vs adolescent reporting	Not reported Not reported Yes
Barnett et al. 2012	All included studies (n = 42) 1998–2011	Not reported RCT, group-RCT, cluster RCT, quasi-experimental	Participants with a mean age of <18.5 years	Interventions based on MI techniques	Face-to-face[33]; computerised[1]	Various: alcohol, tobacco, marijuana, street drugs (including cocaine, methamphet	Educational setting[14]; medical settings[12]; community-based services/tr	MI alone Vs. MI with another intervention (MI+) Vs MI with feedback (MIF) Vs MI with feedback	**Drug outcomes**: Alcohol use; tobacco use; marijuana use; hard drugs, or any combination	**Substance use:** MI > control (24 of 39 (67%) included studies showed significant reductions); studies showed significant reductions in at least one alcohol	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
						amines), multiple drugs	eatment centres[11], and juvenile correctional centres[2]	and another intervention (MIF+)		(n=7), tobacco (n=6), marijuana (n=7), "substance use" (n=8)	
Bekkering et al. 2016	All included studies (n = 24) 1991–2013	US RCTs, controlled clinical trials	Adolescents between the ages of 12 and 8 years. ('Studies assessing a few younger or older patients were also included. It was assumed that the inclusion of these subjects would not lead to substantial bias in the results. The majority of the	Non-professional, peer-operated organisations that help individuals with addiction-related problems, after primary treatment	Delivered by non-professionals, in-person, weekly group sessions	AOD	Not reported	WL (no treatment), or other psychological interventions (CBT, MET)	Drug use frequency and average number of drinks consumed per day, days of alcohol and drug abstinence, number of relapses, dropout rates, treatment engagement (attendance at meetings and/or active involvement in meetings), health care costs, motivation for abstinence, and school	**Drug use**: Higher meeting attendance is associated with decreased drug use. Being actively (measured using General Alcoholics Anonymous Tools of Recovery) involved with self-help groups is associated with a decreased proportion of positive toxicology screens. **Abstinence**: Higher meeting attendance is associated with increased likelihood of abstinence from alcohol and drugs. Being actively involved with self-help groups is also associated with	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			participants, however, needed to be between 12 and 18 years.")						attendance	increased likelihood of abstinence from alcohol and drugs. NUMBER OF RELAPSES: Attending self-help group meetings is positively associated with relapse	
Bender et al. 2011	All included studies (n = 15) 1985–2008	US RCTs	Adolescents between the ages of 12 and 19	Family-based interventions such as including Brief Strategic Family Therapy, Multisystemic Therapy, Multidimensional Family Therapy, Parent Coping Skills Training, Functional Family Therapy, and Integrated Family and Cognitive Behavioural Therapy	Individual, family, group	Cannabis	Clinic, home, community, school	TAU, SC (supportive counselling), delayed treatment, psychoeducation curriculum	Cannabis abstinence, frequency of cannabis use, quantity of cannabis use	**Cannabis use**: teach family > TAU, assertive continuing care > TAU, MDFT> group therapy, MDFT>peer group treatment, MDFT>family education, IF-CBT > psycho-education curriculum, CBT > FFT (4 m), BMET > DT, BT>SC CBT = GT (7m), MDFT=CBT, BMI = TAU, CBT = FFT (7 m), CBT = GT (4m), FFT=GT	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Budney et al. 2010	Waldron et al. 2008 Szapocznik et al. 1983 Azrin et al. 1994 Dennis et al. 2004 Waldron et al. 2001 Liddle et al. 2009 Henggeler et al. 2006 Godley et al. 2007 Kamon et al. 2005 Stanger et al. 2009 Godley et al. 2008 1983–2009	Not reported RCTs	Adolescents using cannabis	MET, CBT, CM, assertive continuing care (ACC), family-based treatments such as brief strategic family therapy family behaviour therapy, family support network intervention and community reinforcement approach counselling, functional family therapy, multidimensional family therapy, multisystemic therapy	Group, individual, family	Cannabis	Not reported	Usual care	Cannabis use, abstinence, cannabis use disorder reduction	**Cannabis use reductions:** group or individual MET/CBT > control, family therapy > control**; abstinence maintenance:** ACC > usual care; CBT + CM > control, CBT/MET + CM > control **Cannabis use disorder reductions**: MET > control, CBT > control, MET + CM > control, CBT + CM > control, family-based therapy > control	Not reported Not reported Yes
Carney & Myers, 2012	All included studies (n = 9) 2002–2012	US, Australia RCT or quasi-experimental	Substance-using adolescents who were at-risk for delinquency	Early interventions that had a screening component for alcohol and	Individual, group	Alcohol or other drugs (including heroin, cocaine, cannabis,	School-based, community-based, emergency	Not reported	**Primary outcomes:** Alcohol or other drug use. **Secondary outcomes**:	**Alcohol frequency:** early interventions are associated with reduced alcohol frequency. Neither individual nor group	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			and involvement in crime. They had to be between 13 and 19 years of age.	other drug use as well as an intervention component. They could also include brief interventions, which have less of an emphasis on advice-giving by the interventionist than other types of interventions		methamphetamine, methaqualone, over-the-counter and prescription medicines)	department-based, correctional facility-based		Delinquent-type behaviours that could be legal (such as truancy from school, aggression and fighting) as well as behaviour that could have legal consequences (such as shoplifting or theft, assault, damage to property)	format was associated with reduction in alcohol frequency. Single and multiple session individual interventions were effective, although the intervention effect was greater with multiple sessions. **Alcohol quantity**: early interventions are associated with reduced alcohol consumption. Both individual and group formats are positively associated with reduction. For individual sessions, single sessions had a significant effect on alcohol quantity while the study that delivered more than one session did not have a significant effect. **Binge drinking**: Early interventions were positively associated with binge drinking.	

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										However, there was no associated with individual or group sessions, and single or multiple individual sessions. **Cannabis marijuana frequency:** Early interventions were not associated with cannabis frequency. Multiple individual sessions had a greater impact than single sessions. **Delinquent type behaviour**: Early interventions had a significant effect on problem and criminal behaviours related to substance use. Interventions delivered in an individual-format and over multiple sessions had small but significant effects on behavioural outcomes	
Davis et al. 2017	All included studies (n =	Not reported	Young people	Treatment is operationalised	Multiple sessions, not	AOD	Non-college	Active control (any type of	**Alcohol use**: frequency of	**AOD use**: CBT + MI + miscellaneous	Not reported

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	50) 1999–2015	RCTs	between the ages of 18 and 25, within non-college settings	using three criteria: (a) at least 90% of participants had an substance use disorder diagnosis, or (b) participants were required to attend treatment by drug court, or (c) when diagnostic information was not available (n=3), eligibility was based on a high frequency of use and the goal was reduction or decreasing use or existing troublesome behaviour (not prevention of future use). This included: Cognitive Behavioural	specified		settings such as not-for-profit-based and hospital-based	prevention and treatment, including treatment as usual) or no/minimal intervention (educational brochures, waitlist, assessment only)	drinking, drinking quantity (i.e. number of drinks per drinking day), and percent days of drinking. **Illicit drugs use**: consumption, frequency, and quantity of cannabis, heroin, methamphetamine, cocaine, ecstasy, and MDMA. Alcohol or drug use problems included outcomes such as the Diagnostic and Statistical Manual for Mental Disorders criteria for abuse or dependence, Rutgers Alcohol	(pharmacological/with no clear guiding principal) > no/minimal intervention; treatment is not more effective than active control conditions. MI > active control; CBT > active control. Effect size not calculated for comparing MI and CBT with no/minimal intervention. No difference in effect size for MI, CBT and miscellaneous interventions	Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				Therapy (CBT), Motivational Interviewing (MI)					Problem Index (RAPI, the Alcohol Severity Index (ASI), Alcohol Use Disorder Identification Test (AUDIT), and social consequences (i.e. driving while under the influence)		
Deady et al. 2014	All included studies (n=10) 2004–2011	Not reported RCTs, uncontrolled trials	Young people with co-occurring depression and substance use disorder	Youth-based intervention approaches targeting co-occurring depression and problematic substance use. The interventions relied on psychological interventions such as psychotherapy, MET, MI, mindfulness, and	Individual, group, family	Various: alcohol, cannabis, other drugs	University -affiliated clinics, or research centres	Placebo, usual care, standard care	**Substance use** outcomes measured using diagnostic interviews and urine toxicology tests, the Time-Line Follow-Back, Recent Recall Form, Alcohol Use Disorders Identification Test [AUDIT], and the Severity of Dependence Scale	**Substance use**: Pharma + psychological therapy = placebo + psychological therapy. Psychological treatments effects were limited to depression, they showed no effect on co-occurring substance use	Not reported Not reported No

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				combination of psychosocial treatment methods + pharmacotherapy							
Diestelkamp et al. 2016	All included studies (n = 7) 1999–2012	US, Brazil (1), Australia, Germany RCTs	Young people between 12 and 25 years, and are treated in an emergency care setting (inpatient or outpatient) following an alcohol-related event	BIs	In-person, max 60 min consisting of a maximum of 3 sessions with a minimum of 1 session delivered in the emergency department (ED)	Alcohol	ED-based	No treatment, standard care, an intervention other than a BI or a BI of different intensity	Alcohol consumption, alcohol-related risk behaviours, alcohol-related negative consequences and/or seeking of further alcohol treatment or counselling	**Alcohol consumption**: BI > control. No study found effects on **both alcohol consumption** and alcohol-related harm. **Alcohol-related harm**: BI > standard care for drink driving and alcohol-related injuries. No study found effects on both alcohol consumption and alcohol-related harm	Not reported Not reported Mixed
Fanshawe et al. 2017	All included studies (n = 41) 1978–2016	US, Denmark, Canada, the Netherlands, Spain, Russia, Australia, Switzerland,	Young people <20 years who are regular, current tobacco smokers. A regular	Interventions included in this study were programmes or strategies targeting psychosocial determinants	Individual counselling, group counselling	Tobacco	Various: school-based, hospital-based, doctor's or dentist's surgery-	No intervention, delayed intervention beyond the last date of data acquisition	Individual-level smoking cessation: A smoker at baseline and ex-smoker at 6-m (or longer) FU	**Smoking cessation:** Group counselling > individual counselling; group counselling > mixed group & individual counselling; group counselling > computer/messaging	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
		Taiwan, Turkey, UK RCTs, cluster-randomised controlled trials	smoker is a young person who smokes an average of at least one cigarette week, and has been doing so for at least 6-months	(for example, enhancing self-efficacy for refusing tobacco), or that focused on developing life skills in order to stay abstinent, if the study design was appropriate			based, computer-based	including FU, information on stopping smoking either delivered to individuals in control groups or as literature, general tobacco education given to all participants		interventions	
Filges et al. 2018	All included studies (n = 16) 2001–2011	US, Europe (Germany, France, the Netherlands, Belgium, Switzerland) RCTs	Young people aged 11–21 years referred to or in treatment for using nonopioid drugs (e.g. cannabis, amphetamine, ecstasy, or cocaine). The young person had to be enrolled to	Multi-dimensional Family Therapy (MDFT): A manual family-based treatment to eliminate drug abuse and associated problems in young people's lives	Not reported	Various	Outpatient	No intervention, WL controls, alternative interventions	**Primary outcomes** Abstinence or reduction in drug abuse as measured by: 1) biochemical test, 2) self-reported estimates on drug abuse, or 3) psychometric scales. The authors measured reduction by	**Problem severity**: MDFT > control (6-m and 12-m FU); **Drug abuse frequency**: MDFT > control (6-m FU) & MDFT=control (12-m) **Risk behaviour**: MDFT = TAU, and MDFT = peer group (6-m FU)	No Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			participate in the treatment (i.e., the intervention or a comparison condition)						drug abuse frequency and problem severity. **Secondary outcomes** family functioning, education or vocational outcomes, retention rate, risk behaviour (crime rates, prostitution), other adverse effects		
Halladay et al. 2019	All included studies (n = 45) Not specified	US, Australia, Brazil (1), Canada, the Netherlands, Germany, France, UK, Chile (1) RCTs, pre-post design	Emerging adults (i.e. 15–24 years of age) including individuals both in and outside of school	BI	1–2 sessions focused on cannabis use	Cannabis	Various: school-based, community-based, primary care-based, emergency department-based, combination	**Passive control** (i.e. usual care or no intervention), **active comparators** (i.e., other types of BIs or longer interventions), and **prepost studies** with no	Cannabis use, cannabis use consequences, symptoms of cannabis use disorder, abstinence, other substance use, and help seeking, mental health, and functioning outcomes	BI Vs No intervention **Cannabis use frequency**: no difference at 3-, 6- or 12-m; **Consequences of cannabis use**: no difference at 3-, 6-, or 12-m; **Symptoms of cannabis use**: BI > passive control at 3-m but no difference at 6-m;	Not reported Not reported No

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
								comparison groups		**Odds of abstinence**: BI > passive control at 3-m but no difference at 6-m, one study showed BI > passive control at 12-m; **Other substance use**: BI > passive control for 'other illicit drug use'. BI Vs Other interventions **Cannabis use frequency**: no differences between online or written compared to in-person BIs; **Consequences of cannabis use**: no difference at 3-, 6-, or 12-m; **Symptoms of cannabis use**: BI > passive control at 3-m but no difference at 6-; **Help seeking:** no difference between BI and BI plus three additional check-ins	
Hartnett et al. 2017	All included studies (n= 14)	Not reported RCTs, non-	Adolescents (not	Functional Family Therapy	Not specified	Various	Not reported	Untreated control	Adolescent disruptive	**Adolescent disruptive**	Not reported

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Not specified	randomised controlled trials	specified)	- treatment of adolescent behavioural problems and substance misuse based on an ecological multifactorial model of risk and protective factors, consists of three phases: (a) engagement and motivation, (b) behaviour change, and (c) generalisation				groups, TAU, and alternative treatments	behaviours and substance use disorder	**behaviours and substance use disorder**: Randomised FFT > alternative treatments; Non-Randomized > alternative treatments; no significant effect was found for any other comparison with control groups	Yes Yes
Hogue et al. 2018	Burrow-Sanchez et al. 2015 Henderson et al. 2016 Kelly et al. 2017 Dakof et al. 2015 Horigian et al. 2015	Not reported RCTs, cluster-randomised controlled trials	Youth between the ages of 12 and 19	CBT, Ecological Family-Based Treatment, MI/MET, Drug Counselling/12-Step Facilitation	Not specified	Various	Outpatient speciality and/or non-medical settings like school or court	No-treatment, usual care	**Adolescent substance use** at baseline and 3-months	**Adolescent substance use reduction:** CBT (both group & individual) > control; ecological family-based treatment (FBT) > control; MET/CBT > control; [MET/CBT + behavioural FBT] > control. The following	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	de Gee et al. 2014 Walker et al. 2016 Winters et al. 2014 Letoumeau et al. 2017 Rohde et al. 2014 Stanger et al. 2015 2014–2017									interventions are possibly effective --> behavioural FBT > control; MI/MET >control; [FBT-E + CM] > control; [MET/CBT + CM] > control; [MET/CBT + FBT-B + CM] > control	
Jensen et al. 2011	All included studies (n = 21) 1998–2009	Not reported non-randomised controlled trials	Adolescents (not specified)	**MI** that combines characteristics of client-centred therapy with cognitive behavioural strategies	Not specified	Various: alcohol, tobacco, marijuana, street drugs (including cocaine, methamphetamines), multiple drugs	Various (not specified)	Control condition (not specified)	Alcohol use, marijuana use, tobacco use, various street drugs (cocaine, methamphetamines), multiple drugs use	**All drug use:** MI > control, **AOD Use:** MI > control**; Tobacco:** MI = control	Not reported Not reported Yes
Kohler & Hofmann 2015	All included studies (n = 8) 1999–2011	US, Brazil (1) RCTs	Young people who are 18 years and under	**MI and MET:** carried out in an emergency care setting targeting young people who	Around 30 minutes, single session	Alcohol	Emergency departments	Control interventions, or standard care, included written information	Alcohol consumption. Drinking frequency. Drinking quantity	**Alcohol consumption:** reduced by MI > control; MI may be used most effectively when young people	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				have screened positively for present or previous risky alcohol consumption				(e.g. alcohol-use risk handout, educational brochure), a contact list (e.g. community resources, adolescent treatment facilities), a phone FU, or personal feedback		have consumed a high volume of alcohol. **Drinking frequency:** reduced by MI > control. Drinking quantity: reduced by MI > control	
Li et al. 2015	All included studies (n = 10) 1998–2011	US, UK, Taiwan (1) RCTs	Adolescents (not specified)	MI: an evidence-based clinical approach designed to elicit and strengthen the intrinsic motivation for, and commitment to, a specific goal through holding a person-centred conversation	Most 1-hour, multi-session, +/- telephone booster	Various	School, community, outpatient clinic, juvenile correction centre	TAU, assessment only, educational materials only, relaxation training (RT) or no intervention	**Behaviour change:** Drug use frequency, abstinence, number of dependence symptoms, problems related to drug use, etc. **Attitude change**: Intention to use drug, readiness to change, perceptions of	**Behaviour change** MI = control. **Attitude change** MI > control (weakened by publication bias)	Not reported Not reported No

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				style					drug etc.		
Merz et al. 2015	All included studies (n=5) 1999–2011	US, UK, Brazil (1) RCTs	Young adults (18–24 years old) admitted to the emergency department following acute alcohol intoxication	BIs addressing harmful alcohol use in young adults (18–24 years) admitted to emergency wards	Healthcare-provider delivered, in-person, with feedback, written materials, telephone booster	Alcohol	Hospital	Various including standard care, personalised feedback + telephone booster, educational brochures	Alcohol use, and trends in alcohol-related risks and problems at FU (3-m, 6-m and 12-m)	**Alcohol use**: BI > control (at 12-m in 2 studies but studies were heterogenous, so overall findings are inconclusive) **Alcohol-related harm (including drink driving, alcohol-related injury):** BI > control (studies were heterogenous, so overall findings are inconclusive)	Not reported Not reported Inconclusive
Rongione et al. 2011	All included studies (n = 20) 1994–2008	Most in US, not specified Clinical trials using single group or control procedure	Individuals 18 years of age or younger	CBT, behavioural treatment, individual cognitive problem solving (ICPS), multimodal substance use intervention program, psychoeducational therapies, MET	Counsellor or psychotherapist-delivered	Various: alcohol, cannabis, other drugs	Inpatient, outpatient, day treatment	TAU, single group, WL control	Drug use problem, drug use frequency, alcohol use, alcohol dependence, perception of risk factor for alcohol use, marijuana use, drug use, percentage of days of marijuana use, personal	**Alcohol use at termination**: psychotherapy or counselling = WL; psychotherapy or counselling = TAU; psychotherapy or counselling > single group studies **Alcohol use at FU**: psychotherapy or counselling > single group studies, psychotherapy or counselling = TAU;	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
									experiences	**Substance use at termination**: psychotherapy or counselling > WL, psychotherapy or counselling > single group studies, psychotherapy or counselling > TAU; **Substance use at FU**: psychotherapy or counselling > single group studies, psychotherapy or counselling = TAU	
Schepis & Rao 2008	All included studies (n = not specified) 2000–2008	Not reported Not reported	Adolescent smokers	Behavioural interventions such as CBT, MI, CM	Internet-based, telephone-based	Tobacco	Health centre, community, school	Standard care, TAU, BI, brief advice, self-help, no treatment, educational sessions	Smoking cessation	**Smoking cessation**: CM > control (at EOT and FU). MI > control (at FU)	Not reported Not reported Yes
Snowdon et al. 2019	All included studies (n = 43) 2000–2017	US, Scandinavian countries, UK, Australia, Canada, Ireland,	Young people described using any of the following terms: youth, adolescent,	The following psychosocial interventions were included in the review: BI, BSFT, CBT, FBT, FFT,	Professional delivered	Various	Outpatient /Inpatient	TAU, alternative interventions	Adolescent substance use	**Adolescent substance use**: only multi-dimensional family therapy found effective ; multi-dimensional family therapy > CBT, TAU,	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
		China (1) RCTs, non-randomised controlled trials	and early adulthood	multidimensional family therapy MI, ACRA, MST						MEI and ACRA (small positive effect)	
Spas et al. 2012	All included studies (n = not specified) 1979–2012	Not reported Not reported	Substance-using participants between the ages of 8 and 20, and who have conduct problems	**CBT, 12-step facilitation**: It is grounded in the concept of substance use as a spiritual and medical disease requiring total abstinence via self-help groups. It requires participants to eventually acknowledge denial and be willing to surrender to a 'higher power', **Multisystemic therapy (MST):** It is a family-oriented treatment using empirically-	Not specified	Various	Residential settings (e.g. correctional facilities or wilderness programs), healthcare settings	Various including counselling as usual (CAU), TAU	Substance abuse, substance dependence, oppositional defiant disorder, conduct disorder	**Substance use** reduction**:** CBT, 12-Step facilitation, MST, PE, MI > control. **Family-based interventions, specifically MST**, is most effective in reducing substance use amongst adolescents	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				supported interventions to assess and treat the multiple determinants of serious antisocial behaviour in adolescents. **Psychoeducation, MI**							
Stanton & Grimshaw 2013	All included studies (n = 28) 1978–2013	UK, US, Canada, Russia, Australia Cluster RCT, RCTs, non-randomised controlled trial, matched-pair RCT	Participants are young people, aged under 20-years, who are regular tobacco smokers. As there is evidence that some young people have an irregular pattern of smoking, for example smoking only at weekends	Psycho-social determinants (for example, enhancing self-efficacy for refusing tobacco), or that focused on developing life skills in order to stay abstinent, if the study design was appropriate	Various: Web-based, telephone-delivered, in-person, individual sessions, multiple sessions, with written materials	Tobacco	School/college	No intervention, delayed intervention beyond the last date of data acquisition including FU, information on stopping smoking either delivered to individuals in control groups or as literature, general	**Smoking cessation**: smoking status after at least six months follow-up among those who smoked at baseline	**Smoking cessation**: BMI + transtheoretical model of change > control, CBT > control, transtheoretical model of change + MET = control (at 8m FU), MET/MI > control (mixed findings), health risk assessment + feedback = health risk assessment, Not on Tobacco intervention = control (6m FU, low power?), internet + computer therapies = control (mixed findings)	Not reported Not reported Mixed

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
			or weekly, authors defined a regular smoker in this review as a young person who smokes an average of at least one cigarette a week, and has done so for at least six months					tobacco education given to all participants in trial			
Stockings et al. 2016	O'Donnell et al. 2014 Patton et al. 2014 Tanner-Smith & Lipsey 2015 Boekloo & Griffin 2007 Fachini et al. 2012 Yuma-Guerrero et al. 2012 Carey et al. 2009 Carey et al.	Not reported Not reported	Young people: individuals aged 10–24 years	*Alcohol*: MET, self-help (phone/online/ written), self-help interventions with peers, CBT, family-based interventions and multisystemic therapy. *Tobacco*: MET, self-help	Phone, online, written, peers	Alcohol, tobacco	School-based, university-based, work-based, primary-care	WL control, no intervention, information only	Substance use problems or dependence	**Various substances (alcohol, tobacco, illicit drugs):** MET > control in reducing substance use (small effect); this effect was reduced further with removal of tobacco**.** Online self-help was not effective in a university population. Authors not able to establish effectiveness of 12-step programmes due	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	2007 Appiah-Brempong et al. 2014 Tanner-Smith et al. 2015 Christakis et al. 2003 Pilowsky & Wu 2013 Bernstein et al. 2009 Jensen et al. 2011 Whittaker et al. 2012 Zisserson et al. 2007 Larimer & Cronce 2007 Hutton et al. 2011 Champion et al. 2013 Wood et al. 2014 Deas 2008 Byrant et al. 2011 Curry et al. 2009 Dennis et al.			(phone, online, written), CBT, MST, family-based interventions						to poor reporting of outcomes and attrition**. Alcohol use**: CBT effectiveness has mixed findings. FBT and MST > control in reducing alcohol use disorders in young people. Tobacco use: CBT shown to be effective to increase abstinence in low quality studies. Cannabis use: CBT > control reducing use **Alcohol-related harm reduction:** online self-help > no intervention	

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	2004 England et al. 2015 Baldwin et al. 2012 2003–2015										
Tanner-Smith et al. 2015	All included studies (n = 67) 1996–2012	Most in US, not specified Most RCTs, not specified	Young people: individuals aged 11–25 years, or on samples of undergraduate college students no older than age 30	BI, MET/MI, CBT, MET+CBT, feedback only, psychoeducation	Individual, group and family. Computerised and non-computerised	Alcohol and illicit drug use	University or high school, emergency room, student health centre, self-administered	WL control, TAU	Illicit drug outcomes, alcohol related problem	**Alcohol use behaviours**: BI > control **Illicit substance use behaviours**: BI > control BI (targeted both alcohol and illicit drugs) > control (reducing both targeted outcomes)	Not reported Not reported Yes
Tanner - Smith & Lipsey 2015	All included studies (n= 313) Not specified	Most in US, not specified Most RCTs, not specified	Adolescents aged 11–18 and young adults 19–30	BI, MET/MI, psycho-educational therapy, CBT+MET, PET, Information only, 21st birthday card	Individual, group and family. Computerised and non-computerised	Alcohol	University or high school, emergency room, student health centre	WL control, TAU (no studies tested 2 types of treatments)	Alcohol consumption, alcohol related problems	<u>Adolescent</u> **Alcohol consumption**: MET, MET/CBT, PET > control, **Alcohol related problems**: MET, MET/CBT > control <u>Young adults</u> **Alcohol consumption**: MET, MET/CBT, PET,	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										expectancy challenge, CBT, feedback/information > control, 21st birthday card, MET/CBT = control **Alcohol related problems**: MET, MET/CBT, expectancy challenge, CBT, feedback/information > control, 21st birthday card, MET/CBT = control	
Tanner-Smith et al. 2016	All included studies (n = 190) Not specified	Most in US, not specified Most RCTs, not specified	Young people: individuals aged 11–25 years, or on samples of undergraduate college students no older than age 30	BI, MET/MI	Individual, group and family. Computerised and non-computerised	Alcohol	University or high school, emergency room, student health centre	WL control, TAU	Abstinence, frequency of drinking days, frequency of heavy drinking, quantity of drinking, maximum quantity/peak consumption, blood alcohol concentration	Adolescents **Frequency of drinking, frequency of heavy drinking, quantity of drinking, maximum quantity**: BI > control, **Two or more types**: BI = control Young adults: **Frequency of drinking, maximum quantity**: BI > control **Frequency of heavy drinking, quantity of drinking, blood alcohol**	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										concentration, two or more types: BI = control	
Tripodi et al. 2010	All included studies (n = 16) 1998–2008	US Exper-imental (14), quasi-experimental (2)	Adolescents with substance abuse	Family based therapies, CBT, IF-CBT (integrated family+CBT) supportive counselling, assertive continuing care, active aftercare, BMI, psychoeducation curriculum, multisystemic therapy, triple modality social learning	Individual, family	Alcohol	Clinic, aftercare service, community centre, residential facility, school, homeless drop-in centre, homes	TAU	Days of alcohol use, Alcohol use, Frequency of alcohol use, time absent from alcohol, Severity of alcohol use, Heavy alcohol use, alcohol binge days	**Days of alcohol use**: BT > SC, ACC=TAU **Alcohol use, Frequency of alcohol use, time absent from alcohol**: ACC=TAU	Not reported Not reported No
Tripodi and Bender 2011	All included studies (n = 5) 1999–2010	Not reported Experimental (4), quasi-experimental (1)	Adolescents between the ages of 12–19	Family based interventions, multisystemic therapy (MST), multidimensional treatment foster care (MTFC), teaching families (TF),	Individual-based, family-based, clinicians, welfare professionals	Alcohol and marijuana	Juvenile justice system, clinic, home, foster home, aftercare services, school	TAU, Basic residential treatment (BRT), Group care	Alcohol use, days of alcohol use, time abstinent from alcohol, frequency of alcohol use. Days of cannabis use, time abstinent	**Alcohol use**: TMSL > BRT **Days of alcohol use**: ACC > TAU **Time abstinent from alcohol**: ACC > TAU (3m and 9m) **Frequency of alcohol use**: MST > TAU (130 days and 10 m),	Not reported Not reported Yes

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				assertive continuing care (ACC), triple modality social learning (TMSL)			community centre settings		from cannabis, frequency of cannabis use	MTFC > GV (12 and 18 m) **Days of cannabis use**: TF > TAU, ACC > TAU **Time abstinent from cannabis**: ACC > TAU **Frequency of cannabis use**: MST > TAU (130 days and 10 m), MTFC > GV (12 and 18 m)	
Waldron & Turner 2008	All included studies (n = 17) 1998–2007	Not reported Studies that meet type I or II criteria cited by Nathan and Gorman 2002	Adolescents, most dual diagnosis	Individual CBT replications, group CBT replications, family therapy replications, MET	Individual, group, family, Therapist delivered or not identified	Various	Outpatient	Majority were comparing BFT and CBT, also minimal treatment control conditions, waitlist control, psycho-ed group	Substance use reduction (and reductions in specific drugs), substance use related problem, problem behaviours	**Substance use reduction**: CBT-I=FBT (6m), MET+CBT-G = Counselling overview + CBT-G (marijuana 12m), MET/CBT5=MET/CBT 12=FSN, MET/CBT=ACRA=MDFT, MST>Control, CBT-G>C, CBT-G>Pyscho-ed control, MDFT=AGT=MEI, MDFT>CBT-I, MDFT=CBT-G, SET>FAM or control, BSFT>control	Not reported No - they do explain that a limitation of these papers is that there is no measurement of coping skills or changes in coping skills with treatment Mixed

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										(marijuana), 7C=SOFT (marijuana), MM12 step > WL, FFT=CBT-G=CBT-G, TFT=AGT (marijuana) (TFT>AGT long-term), FFT=CBT-G=CBT-I, FFT=CBT-G=IBFT (FFT>CBT-I and IBFT>CBT-I FU), IBFT>CBT-I (marijuana for Hispanic population), CBT-I=IBFT (marijuana for Anglo populations) **Substance use related problem**: BSFT>control (marijuana) **Problem behaviours**: CBT-I=FBT	
Yuma-Guerrero et al. 2012	All included studies (n= 7) 1999–2010	US RCTs	Young people between the ages of 11 and 21 years	Screening, brief intervention and referral to treatment (SBIRT)	Therapist delivered; computer-based therapy	Alcohol	Emergency Departments of level I trauma centres	Standard medical care; handout on avoiding drinking and driving and a list of resources for	Alcohol consequences, Alcohol misuse, Drinking reduction, Reported drinking and driving,	**Alcohol consequences**: MI>C; MI=C (3 and 6 MThs); **Therapist**: MI > computer based MI. **Alcohol misuse**: MI=C **Drinking reduction**:	Not reported Not reported Mixed

Question 2. ***Adolescents and young adults***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
								treatment; minimal medical care	Moving violation, Alcohol related injury	MI>C; MI=C. **Reported drinking and driving**: MI>C;MI=C **Moving violation**: MI>C; MI=C. **Alcohol related injury**: MI=C; M > C	

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level I Evidence for MDFT (based on a review of 5 RCTs within meta-review; Snowdon et al. 2019)	**C** (Multiple Level II studies, none of which had a low risk of bias).	**B** (Mostly consistent findings, which inconsistencies arising over different assessment time-points).	**D** (Scarcity of available data and small effect sizes)	**C–D** (RCT focussed on MDFT in outpatient settings in non-opioid drug use; unable to ascertain the generalisability of findings to other healthcare settings and/or other AOD using-populations)

Question 2. ***Indigenous/First Nations***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of the special population	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Carson et al. 2012	Bramley et al. 2005 Ivers et al. 2003 Johnson et al. 1997 1997–2005	US, Australia, New Zealand RCTs	Young people and adults of any age and either gender, who were Indigenous to their country and were active smokers participating in a smoking cessation study	Cognitive and behavioural therapies, (including CBT, counselling, support groups, self-help, seminars, motivational lectures) +/- pharmacotherapies, alternative therapies (including acupuncture, hypnotherapy, aversion therapy), public policy (including legislative interventions, media campaigns, community interventions	Various: Clinic doctors, mobile-delivered, in-person	**Tobacco**	Health centre-based, community-based, technology-based	Usual practice, no intervention, placebo, co-interventions (e.g. an intervention such as alcohol cessation counselling that occurs in both the intervention and control arm) or reduced intervention. Control participants receiving reduced interventions could be offered brief advice on quitting, but support had to be of a lower intensity than that given to	**Primary outcome**: Smoking cessation (via **c**ontinuous abstinence and/or the relevant 'point prevalence' for the longest FU point reported in the study (minimum of 6-m). **Secondary outcomes:** Adverse effects of interventions, mortality, costs of interventions, change in QOL (Psychological QOL or any other generic quality of life tool), change in pulmonary function , change in attitudes, change in knowledge, change in	**Smoking cessation**: psychosocial **i**nterventions > control (but after sensitivity analysis + removal of one study, there was statistically insignificant but clinically significant effect of psychosocial intervention on smoking cessation) **Readiness to quit**: psychosocial interventions < control	Not reported Not reported Yes

								the intervention participants	exercise tolerance		

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Unable to establish Level of Evidence for CBT + pharmacotherapy due to substantial methodological limitations of RCT showing positive effects (Identified within Cochrane Systematic Review; Carson et al. 2012)	**D** (One Level I study with high risk of bias).	**D** (Evidence is inconsistent)	**D** (Findings of possible clinical significance due to 43% increase in abstinence rates; yet small sample size)	**D** (RCT conducted in Australian indigenous people; yet small sample size and self-selecting sample of study likely to limit generalisability)

Appendix F— Question 3 review characteristics and evidence grading.

Appendix F. Question 3 review characteristics and quality of evidence assessment.

Question 3. ***Technology-based interventions***

Publication reference	**Study references** **Study year/s**	**Study location/s** **Study design/s**	**Details of therapeutic process and/or service/care delivery model**	**Details of the psychosocial intervention**	**Delivery mode/s of intervention**	**Substance type treated**	**Setting**	**Comparison / Control groups**	**Outcomes**	**Results relating to question**	**Positive outcomes: General health** **Wellbeing** **Harm reduction**
Batastini et al. 2016	Fox et al. 2008 Nelson et al. 2004 Zaylor et al. 2001 Brodey et al. 2000 **King** et al. 2014 **King** et al. 2009 Manguno-Mire et al. 2007 Morgan et al. 2008 2000–2014	Not reported Cross-sectional (2), Repeated measures (2^2, randomised trial (3), non-randomised trial (3)	Telepsychological service, Therapeutic alliance	Not reported	Telepsychological services	Not reported	Criminal Justice, client home, outpatient substance abuse clinic, medical facility, psychiatric facility	In-Person Services	MH symptoms, Therapeutic processes, Drug urinalysis, Counselling sessions attended, Service satisfaction	**MH symptoms**: telepsychology = in-person **Therapeutic processes:** telepsychology = in-person **Counselling sessions attended**: telepsychology = in-person **Service satisfaction**: telepsychology = in-person **Drug urinalysis**: telepsychology > in-person (very small effect)	Yes Not reported Yes
Beck et al. 2017	All (n = 12) 2002–2015	Australia, US	Process variables were	SMART Recovery	Groups and technology-	Alcohol (primary	Not reported	SMART informed	**Severity of addiction and**	Only 3 of the 10 studies that examined	Not reported

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
		Cross-sectional (8), RCT (1), pre-post treatment (1), quasi-experimental pseudoprospective design	assessed as an outcome (primarily treatment engagement). Digital SMART intervention was used as comparator in 1 study	(Self-Management and Recovery Training)	based interventions	focus) Multiple other substances		online intervention, control comparison groups, other forms of mutual aid	**its consequences:** quantity, frequency and/or duration of use. Number of hospitalisations and recidivism. **Process variables:** Primarily treatment engagement. **Feasibility:** Number of sessions attended, proportion of participants accessing some form of mutual aid	treatment engagement explored its relationship to treatment outcome. Treatment engagement was a significant predictor of reduced drug and alcohol use in both treatment and comparison groups in these studies. **Abstinence, number of drinks p/day, alcohol-related problems:** SMART Recovery group = SMART online intervention (improvements in both conditions)	Yes Yes
Boumparis et al. 2017	All (n=17 studies 2005–2015	Australia, Brazil, Sweden, Switzerland, US	Not reported	CRA, CBT, MI, CM, BI, Cognitive Remediation	Technology-based intervention	Opioids, Stimulants, Any Illicit Substance	Clinical settings, community		Substance use reduction (via urinalysis, hair analysis or self-report).	**Substance use reduction (post-treatment):** Internet interventions > controls across all studies. For opioid users, Internet	Not reported Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
		RCT								interventions > control. For stimulant users, Internet interventions < control. No results for specific psychosocial interventions reported. Add-on, guided interventions > unguided interventions. Outpatient clinic > university or home-based intervention. No sig. association for duration of program, or number of sessions. **Substance use reduction (Follow-up 6-12 months):** Internet interventions > control	
Boumparis et al. 2019a	Becker et al. 2014 Blow et al. 2017 Budney et al. 2015 Christoff et al. 2015 Campbell et	US, Australia, Germany, Switzerland, Brazil RCT	Not reported	Personalised Normative Feedback, MI, BI, CBT, CRA, Solution Focused	Technology-based intervention +/- counselling	Cannabis	Clinical settings, university settings, community, online	Therapist sessions, counselling, non-active controls	Cannabis use reduction	**Cannabis use reduction**: digital intervention = therapist led intervention (for active control studies), digital intervention > non-active controls	Not reported Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	al. 2014 Elliot et al. 2014 Gryczynski et al. 2016 Jonas et al. 2012 Kay-Lambkin et al. 2009 Lee et al. 2010 Ondersma et al. 2007 **Ondersma et al. 2014** Palfai et al. 2014 Rooke et al. 2013 Schaub et al. 2015 Schwartz et al. 2014 Tossmann et al. 2011Towe & Stephens 2014 Watson et al. 2013 2007–2017									(but effects not sustained at 12 m) **Cost effectiveness**: digital intervention > therapist led intervention (for one study)	

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Boumparis et al. 2019b	**Bertholet 2019** Bertholet 2018 Boss 2018 Brendyen 2017 Cunningham 2017 Deady 2016 Fernandez 2019 Fucito 2017 Johnson 2018 Jones 2018 Khemiri 2019 Kiluk 2016 Leeman 2016 Neighbors 2019 Ondersma 2016 Sundstrom 2016 Wallace 2017 Acosta 2017 Aharanovich 2017 Blow 2017 Bracisewski 2018	Not reported RCT	Not reported	Personalised Normative Feedback, MI, BI, CBT, CRA, Integrated therapeutic principles	Technology-based intervention	Alcohol, Cannabis, Opioids, Psychostimulants, Polysubstance	Community, Workplace, Emergency department, Outpatient, Primary care, Veterans affairs, HIV primary care, Foster care, MH	Assessment only, WL control, Educational booklet, Attention control, CBT, Face-to-face intervention, Treatment as usual, MI	Reduction of alcohol use, Reduction of cannabis use, reduction of opioid use, reduction of psychostimulant use.	**Substance reduction:** Digital PNF = assessment (for alcohol), Digital BI's = face to face BI's (for alcohol), Digital CBT+TAU > TAU, Guided digital interventions > unguided interventions, Digital MI+PNF+Emotion Regulation > Waitlist control; PNF, self-monitoring (via app) = AO (for alcohol); Digital CBT+MI > Attention control condition (not sustained at 6 m); Digital CRA+TAU > TAU (for opioids); BI (face-to-face or digital) > TAU (for cannabis); Digital BI = to FTF BI (for polysubstance); Digital MI > control (for polysubstance in youth); Digital PNF+self-	Not reported Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Kiluk 2018 Paris 2018 Jonas 2018 Reback 2017 2016–2019									monitoring+positive reinforcement+MI > MI (only for polysubstance); Digital CBT = face-to-face CBT (for polysubstance, but digital CBT sustained at 6mo, FtF CBT not); Digital CBT + TAU > control (for alcohol but not other substances); Digital CBT+TAU > Supportive counselling+TAU (for polysubstance). Ecological momentary assessment+CBT < CBT (only for psychostimulants). **Cannabis use days**: Digital intergrated therapy program > control **Treatment satisfaction and working alliance**: instant chat-based counselling > control	

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Chatters et al. 2016	Gates et al. 2012 Rooke et al. 2013 Tossmann et al. 2011 2011–2013	Australia, Germany, "Worldwide" RCT	Not reported	CBT, general counselling	Technology-based interventions	Cannabis	Not reported	WL or education control	Cannabis use reduction (various measures), attendance rates, Severity of dependence	**Cannabis use reduction**: technology-based intervention > control (at post-intervention, 2/3 studies, and 3 m FU, 2/3 studies) **Severity of dependence**: technology-based intervention > control (from 1/2 studies). **Attendence**: Telephone and web-based session attendance 51% to 81%. **Cannabis related problems**: technology-based interventions > control (from 1 study)	Yes Yes Yes
Davis et al. 2015	All (n = 10) 1994–2013	Not reported RCT	Treatment intensity	Behavioural therapies (including CBT, ME, CM, RP)	Technology-based interventions, Group vs. individual, Treatment intensity.	Cannabis	Not reported	Technology-based interventions Group treatment Individual therapy	Cannabis reduction (various measures), abstinence, frequency of cannabis use. Severity of	**Cannabis reduction (various measures)**: phone/internet = in person interventions, group = individual interventions, no dose-response identified	Not reported Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
									cannabis use, diagnostic symptoms		
Dedert et al. 2015	Neumann et al. 2006 Riper et al. 2008 Cunningham et al. 2009 Hansen et al. 2012 Brendryen et al. 2014 Cuoclare et al. 2013 Schulz et al. 2013 Bischof et al. 2008 Wallace et al. 2011 Boon et al. 2011 2006–2014	Europe, US, Canada, New Zealand RCT	Not reported	Digital interventions (not adequately described) - include feedback, goal setting, and psychoeducation	Digital interventions	Alcohol	Online (web access), University clinics	Inactive control groups	Alcohol consumption (g/week), Proportion of participants meeting drinking limit guidelines at 6m, Proportion of binge drinkers, Self-reported social problems	**Alcohol consumption (g/week)**: Digital interventions = control (at 6m or 12m), digital interventions > control (small significant effect in a subset of low-moderate bias trials). **Proportion of participants meeting drinking limit guidelines**: Digital interventions = control **Proportion of binge drinkers**: digital intervention = control (at 6m) **Self-reported social problems**: digital interventions = control	Not reported No Yes
Donoghue et al. 2014	All (n = 23) 2004–2013	US, the Netherlands, Japan, Germany,	Not reported	BI	Technology-based interventions	Alcohol	In-community/general populatio	Usual care, assessment only, no intervention	Alcohol consumption (ethanol g/wk); Number	**Alcohol consumption (ethanol g/wk):** eSBI>Control/Compar	Not reported Not reported

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
		Australia, New Zealand, Canada, Sweden, Denmark RCT, parallel group					n; specialist mental outpatient; University health service		drinking episodes; Drinks p/drinking day; Drinking within drinking limits. All outcomes within study-specified limits	ison (at < 3m, 3<6m, 6<12m FU); eSBI = Control/Comparison (at >12 m FU). Effects largest at <3m FU and decreased with time	Yes
Dugdale et al. 2019	All studies (n = 28) 2007–2018	US, UK, Australia, Sweden Switzerland, Germany, the Netherlands, Austria, Mexico RCT (19), pilot RCT (3), pre-post, single group[6]	Not reported	CBT, MI, Personalised feedback, ACT, Mindfulness, Cognitive remediation, psychoeducation, self-regulation, mutual-aid therapy (e.g. AA)	Technology-based interventions	Alcohol, pooled results for other substance use	Veterans, general adult population, Workplace, Dual diagnosis treatment settings, Substance use treatment setting, University, Web based	WL control, psychoeducation, inaptient care, or alternative CBI's (e.g. brief intervention only)	MH, Substance use, QOL, work and social adjustment	**Alcohol consumptions, problems, and dependency:** CBI > control (3 studies, at 3, 6 and 9 m), **For dual diagnosis**: CBI > control (6 studies, 1 study not significant) **QOL for dual diagnosis**: CBI > control **Work and social adjustment for dual diagnosis**: CBI > control **Substance use:** CBI > control (4 studies), CBI ≤ control (4 studies),	Yes Yes Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										CBI+therapist > CBI alone (2 studies). **Substance use for dual diagnosis**: CBT, CBT+MI, CBT+therapist > control (3 studies), CBT-CBI ≤ inpatient treatment (2 studies, CBT-CBI+therapist support > person centred therapy (1 study)	
Fowler et al. 2015	Agyapong et al. 2012 Gonzalez & Dublin 2015 Gustafson et al. 2014 Mason, Ola, et al. 2014 **Suffoletto** et al. 2012 **Suffoletto** et al. 2015 Weitzel et al. 2007 Witkiewitz et al. 2014	Ireland, US RCT	Not reported	Digital interventions (not adequately described) - includes CBT techniques and tailored feedback	Technology-based interventions	Alcohol	Emergency Departments, Clinical populations, University students	Inactive control, assessment only, digital intervention + bibliotherapy	Number of risky drinking days, readiness to change, number of heavy drinking days, number of drinks p/drinking day, cumulative abstinence	**Number of risky drinking days, number of heavy drinking days, number of drinks p/drinking day, cumulative abstinence duration**: Digital interventions > control, digital-interventions = control (only in 1 study)	Not reported Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	2007–2015										
Getty et al. 2019	**Alessi** et al. 2013 **Alessi** et al. 2017 Carpenter et al. 2015 Hertzberg et al. 2013 Moore et al. 2015 Raiff et al. 2017 Koffarnus et al. 2018 2013–2018	Not reported RCT, Within subjects	Not reported	CM	Technology-based interventions	Alcohol, tobacco	Not reported	Non-CM interventions	Percentage of negative samples, Quit rate, Longest duration of abstinence	**Percentage of negative samples, quit rate, longest duration of abstinence**: CM > non-CM	Not reported Not reported Yes
Hadjistavropoulos et al. 2019	Blankers et al. 2011 **Brendryen** et al. 2014 **Brendryen** et al. 2017 Brief et al. 2013 **Cunningham** et al. 2012 **Cunningham** et al. 2017	Not reported RCT	Not reported	CBT	Technology-based interventions	Alcohol	General population, Substance use treatment clinics, Veterans, Workplace	Self-guided waitlist, E-Booklet on Alcohol Education, WL, Digital BI, Cognitive stimulation computer exercises, SMART Recovery,	Standard drinks consumed (in previous week, or months), Highest number of drinks on one occasion, Number of heavy drinking days, Drinks p/drinking day,	**Alcohol consumption (various measures)**: Self-guided Digital CBT > psychoeducation (2 studies), Self-guided Digital CBT > WL (1 study), Self-guided Digital CBT < Electronic Screening + BI (3 studies),	Not reported Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Farren et al. 2015 Hester et al. 2013 Kiluk et al. 2016 Postel et al. 2010 Riper et al. 2007 Sinadinovic et al. 2014 Sundstrom et al. 2016 Wallace et al. 2011 2007–2017							TAU	Percent of days abstinent, Longest continuous abstinence	Therapist-guided Digital CBT > WL (2 studies). Therapist-guided Digital CBT > Self-guided CBT (2/2 studies, Therapist-guided Digital CBT > TAU (group or individual psychotherapy, 1 study)	
Hai et al. 2019	Delrahim-Howlett 2011 Howlett 2010 **Evans** 2012 **Evans** 2014 Ingersoll 2018 Jack 2015 Martino 2018 **Montag** 2014 **Montag** 2015a **Montag**	USA (1), the Netherlands (1) RCT	Not reported	Mixed - MI, psychoeducation, assessment and personalised feedback	Technology-based interventions	Alcohol, pooled results for other substance use	Prenatal clinics, midwifery practices, web-based, hospital clinics, health clinics	TAU, other interventions	Substance use outcomes (varied)	**Substance use**: TBI > Controls (overall result); **Alcohol use, drug use**: TBI = Controls (likely due to low power) Type of technology used **was not** a significant moderator - again limited by low power	Not reported Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	2015b **Ondersma** 2007 **Ondersma** 2014 **Ondersma** 2015 **Ondersma** 2016 **Ondersma** 2018 **Tzilos** 2010 **Tzilos** 2010 **Tzilos** Wernette 2018 van der Wulp 2014 2007–2018										
Hedman et al. 2012	Seidman 2010 Tossmann 2011 2010–2011	Germany RCT, Controlled trial	Not reported	CBT	Technology-based interventions	Nicotine, Cannabis	Not reported	Not reported	Nicotine reduction, Cannabis not further defined	**Nicotine reduction:** ICBT > control at post-treatment. **Cannabis reduction**: pre-to-post treatment effect large (d = 1.47)	Not reported Not reported Yes
Lin et al. 2019	All (n = 13 studies)	US (10), Canada (2),	Not reported	Psychotherapy not further defined,	Telepsychological services	Tobacco, Alcohol, Opioids	Patients home, criminal	In-person service, phone-based	Abstinence, treatment retention,	**Tobacco: For abstinence rates -** telepsychology = in-	Not reported

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	2005–2018	Denmark RCT, Non-randomised comparison, Single arm pilot, Retrospective study, Retrospective comparison		psychoeducation, counselling not further defined			justice setting	treatment, TAU	alcohol reduction	person, telepsychology = telephone. **Alcohol**: sig. reduction from baseline to 2-month (no comparison group), telepsychology = TAU (1 study), For retention - telepsychology > control (1 study). **Opioids**: For retention - Telepsychology > control (1 study), this finding supported by 1 non-comparison study. For abstinence - n.s. differences (1 study), telepsychology = in-person service (2 studies). **Therapeutic alliance**: Telepsychology = in-person service (1 study).	Not reported Yes
Riper et al. 2018	Araki et al.2009 Bertholet et	Not reported	Not reported	Psychoed, personalised normative	Technology-based interventions	Alcohol	Community, workplac	WL, assessment only, health	**Primary outcome**: Mean weekly	**Mean weekly alcohol consumption (in standard units: 10g**	Not reported

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	al. 2015 Bischof et al. 2008 Blankers et al. 2011 Boon et al. 2011 Boss et al. 2017 Brendryen et al. 2014 Brendryen et al.2017 Cunningham et al. 2009 Hansen et al. 2012 Hester et al. 2005 Khadjesari et al. 2014 Postel et al. 2010 Riper et al. 2008 Schulz et al. 2013, Sinadivowic et al. 2014 Suffoletto et al. 2012	RCTs		feedback, transtheoretical model, behavioural change counselling, behavioural self-control training, CBT, MI	(guided v unguided)		e, primary care (GP, Emergency Department).	behaviour booklet, alcohol leaflet, e-booklet. Personalised normative feedback & e-booklet (vs PNF/CBT/behavioural self-control training). Web-based unguided self-help (vs CBT/behavioural self-control/MI)	alcohol consumption (in standard units: 10g ethanol). **Secondary**: Treatment response (alcohol consumption below 14/21 SUs p/week for females/males post-intervention). **Moderators tested**: Participant-level (gender, age, education, employment, partner relationship); Intervention-level (therapeutic guidance, therapeutic orientation, setting); Study design level	**ethanol):** Internet intervention > comparison/control (5 SU) **Treatment Response (alcohol consumption below 14/21 SUs per week for females/males post-intervention):** Internet intervention > comparison/control **Moderation analysis:** Men > women (mean weekly consumption) Low education (primary,secondary) > high (tertiary) (mean weekly consumption) Over 55yo > Under 55yo (treatment response) Both guided & unguided interventions > control (for mean weekly alcohol consumption and treatment response). Guided > unguided	Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Sundstrom et al. 2016 Wallace et al. 2011 2009–2017								(waitlist control vs assessment only or minimal-intervention control)	interventions (for mean weekly alcohol consumption and treatment response). Interventions based on integrated therapeutic principles > PNR only (for treatment response)	
Rogers et al. 2017	All (n = 106, from 71 meta-analyses covering 106 RCTs) 2005–2015	Not reported Review of meta-analyses of RCTs	Not reported	Personalised normative feedback, goal setting, CBT, interactive journaling/activities, motivational materials, tailoring with stages of change, coping methods, self-monitoring, educational materials, advice, tracking use	Technology-based interventions	Alcohol, tobacco, cannabis	Internet, Primarily college students	Not reported	Reduction in alcohol consumption, abstinence rates of smoking, reduction in frequency and quantity of cannabis use, Principal measure of efficacy is NNT	**Substance use outcomes**: technology-based interventions > control (moderate effect, NNTs of 9-26 for avoidance or reduction in use over a short-term period, up to 6m)	Not reported Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Rooke et al. 2010	All (n = 34) 1990–2009	Not reported RCTs, cluster RCTs	Not reported	Each study intervention coded Y/N for containing normative feedback and RP. Other details not reported	Technology-based interventions	Alcohol and tobacco	Home or research setting (recruited primarily from universities)	Active comparison (MI, booklet, CBT, counselling), attention/placebo control (Placebo, assessment only, booklet, TAU)	Abstinence, change from pre-intervention to follow-up, post-intervention use. **Moderators**: Age group, gender, substance type, outcome variable, follow-up period, application of ITT, monitoring participants	**Moderation analyses:** Significantly larger effect sizes found for alcohol (v tobacco) and offline (v web-based). Sig smaller effect sizes for abstinence (v post-intervention use or reductions in use). No differences found as a function of treatment location, provision of normative feedback, availability of a discussion feature, entertainment features, emphasis on relapse prevention or number of treatment sessions	Not reported Not reported Yes
Smedslund et al. 2019	All (n = 53) 2004–2016	US (39), Sweden (4), Switzerland (1), New Zealand (4), Australia (2), the Netherlands	Not reported	Personalised normative feedback, assessment & feedback, personalised feedback only, others (names	Technology-based interventions	Alcohol	Not reported	No intervention, WL control or an alternative brief intervention (computerise	Alcohol use (quantity, frequency)	**Alcohol use (quantity, frequency)**: Assessment + feedback > no intervention (short term alcohol reduction) – 15	Not reported Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
		(2), mix of 4 countries[1] RCTs, quasi-RCTs		of programs). All stand-alone				d or non-computerised)		studies Assessment + feedback > no intervention (long term alcohol reduction) –3 studies Assessment + feedback > assessment only (short term alcohol reduction) –24 studies Assessment + feedback = assessment only (long term alcohol reduction) – 3 studies Assessment + feedback = education (short and long term) – 7 and 1 study Comprehensive feedback = brief feedback (short and long term) (4 and 1 study) Computer assessment + feedback = Counselor assessment + feedback (short and long term; 6 and 1	

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										study)	
Sundstrom et al. 2017	All (n=14) 2005–2015	Not reported Systematic reviews	Not reported	Personalised normative feedback, combined treatments, relapse prevention	Technology-based interventions	Alcohol	Not reported	Not reported	Alcohol consumption	**For adult (non-student) population:** Significant effect on alcohol reduction (3/3 reviews), small-medium effect sizes. Effects seem to reduce after more than 12 months. **Therapeutic orientation:** There is no evidence of superiority of any particular psychosocial intervention. **Treatment duration**: Sig. effect favouring longer interventions (3/5 reviews). **Therapist guidance:** Guided > unguided (1/3 reviews)	Not reported Not reported Yes
Tait et al. 2010	All (n = 14) Bersamin et al. 2007 Bewick et al. 2008	US (10), UK (1), New Zealand (3)	Not reported	Assessment and personalised feedback; information+BI	Technology-based interventions	Alcohol	Internet: Tertiary students (13 studies),	No treatment control, assessment only, education	Heavy drinking (>5 per session), alcohol units per occasion	**Overall effects**: all interventions > control (effect size d = –0.22) **Quantity of alcohol**	Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Chiauzzi et al. 2005 Croom et al. 2009 **Doumas et al. 2009** **Doumas et al. 2008** **Kypri et al. 2008** **Kypri & McAnally 2005** **Kypri et al. 2004** Moore et al. 2005 Neighbors et al. 2009 Saitz et al. 2007 **Walters et al. 2009** **Walters et al. 2007** 2004–2009	RCTs		+skill building feedback, personalised normative feedback, newsletters, demographics +alcohol assessment+feedback			employed youth (1 study)	only, printed material only, demographics only, demographics+feedback only	and per week, typical alcohol quantity, peak drinking, alcohol use, high risk behaviour, alcohol quantity and frequency and drinking to intoxication, binge drinking, number of drinks on 21st birthday, peak blook alcohol content	**consumed**: technology-based intervention > control (at FU, from 10 studies) **Frequency of heavy or binge drinking**: technology-based intervention > controls (from 7 studies) **Alcohol-related social consequences (Rutgers Alcohol Problem Index or Alcohol Problems cale)**: technology-based intervention > control (from 6 studies, small but sig effect sizes)	Yes
Tait et al. 2013	All (n = 10) Fang et al. 2010	US (5), Germany (2),	Not reported	Interactive family substance use	Technology-based interventions	Cannabis	Home, outpatient clinic,	Assessment only (7 studies),	Self-reported frequency of cannabis use	**Cannabis use**: internet/computer intervention > control	Not reported

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Jonas et al. 2012 Kay-Lambkin et al. 2011 Lee et al. 2010 Newton et al. 2010 Ondersma et al. 2007 **Schinke et al. 2009-1** **Schinke et al. 2009-2** Schwinn et al. 2009 Tossman et al. 2011 2007–2011	Australia (2), US/Canada (1) RCTs		prevention program, online chat with trained MI counsellor, BI+Computerised CBT, lessons about alcohol and cannabis online and by teacher, Computerised MI and computerised personalised feedback, substance use prevention program, self-regulation program			school. (Recruited from community, clinic, school, university)	information only, non-computerised active controls (3 studies, including BI+Person-centred therapy or BI+CBT)		(at post-treatment, effect size of g = 0.16 (95% CI 0.09–0.22, P < 0.001)). Subgroup analyses (to determine whether the overall mean effect of the interventions differed across subgroups) revealed no sig differences according to type of analysis, type of control condition, age group, gender composition, type of treatment, therapy guidance, mode of delivery, focus of intervention, and venue where participants received intervention. Meta-regression analyses indicated that differences in the overall mean effect size were not significantly associated with either the variation in the	Not reported Yes

Question 3. ***Technology-based interventions***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison / Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										times to post-treatment assessments	
Tirado-Munoz et al. 2018	Olmos et al. 2018 Rogers et al. 2017 Copeland et al. 2017 2017–2018	Australia, others not reported Review, RCT	Not reported	BI (not specified)	Technology-based interventions	Cannabis	Not reported	Not reported in full, Brief Vs. Extended TBI	Cannabis use reduction	**Cannabis use reduction**: Computerised interventions reduce frequency of cannabis use, along with secondary substance use. Efficacy increased with the number of sessions ≥ 5 sessions. Brief + computerised = Extended + computerised interventions **Severity of dependence**: Brief intervention > extended intervention	Not reported Not reported Yes

Level of evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Level I Evidence (systematic review and meta-analysis of RCTs; Hai et al. 2019)	**A** (Most included studies low risk of bias, with some having unclear bias risk)	**B** (Some inconsistencies which are likely explained by methodology and sample size issues)	**B** (Clinical implementation limited by inconsistencies).	**C** (Review focuses on a specific population which may not generalise more broadly)

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
Beck et al. 2017	All (n = 12) 2002–2015	Australia, US Cross-sectional (8), RCT (1), pre-post treatment (1), quasi-experimental pseudoprospective design (1)	Technology based interventions Group treatment	SMART Recovery (Self-Management and Recovery Training)	Groups and technology-based interventions	Alcohol (primary focus) Multiple other substances	Not reported	SMART informed online intervention, control comparison groups, other forms of mutual aid	**Severity of addiction and its consequences:** quantity, frequency and/or duration of use. Number of hospitalisations and recidivism. **Process variables:** Primarily treatment engagement. **Feasibility:** Number of sessions attended, proportion of participants accessing some form of mutual aid	Only 3 of the 10 studies that examined treatment engagement explored its relationship to treatment outcome. Treatment engagement was a significant predictor of reduced drug and alcohol use in both treatment and comparison groups in these studies. **Abstinence, number of drinks p/day, alcohol-related problems:** SMART Recovery group = SMART online intervention (improvements in both conditions)	Not reported Yes Yes
Cahill et al. 2010	All studies (n	US, UK, Australia,	Stage-based	Personalised feedback,	Face to face, telephone,	Tobacco	Population based,	Generic self-help	Smoking cessation (6 m	**Smoking cessation**: stage-based self-help	Not reported

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	= 42) 1993–2010	the Netherlands, Germany, Belgium, Canada, Finland, Switzerland, Taiwan, Japan RCT, quasi-RCTs	interventions	individual counselling or brief advice, interactive computer games, telephone counselling, training in the stage of change model of smoking cessation, stage-based self-help materials	technology-based intervention, self-help materials		outpatient clinics, antenatal clinics, hospital wards, general practice, education	materials or services, Usual care, assessment only, non-smoking-related healthcare interventions	after the start of the intervention)	materials + individual counselling = non-stage-based counterparts (results are at expected levels for all interventions when delivered as stage based). Stage based Interactive computer programmes = TAU, Stage based Interactive computer programs = assessment only	Not reported Yes
Carson-Chahhoud et al. 2019	All: n = 7 Burford et al. 2013 Caponetto et al. 2017 Dent et al. 2009 El Hajj et al. 2017 Farley et al. 2017 Maguire et al. 2001 Sinclair et al.	UK (3) Australia (1), USA (1), Qatar (1), Italy (1) RCTs	Intervention intensity	Behavioural support for smoking cessation delivered by community pharmacy personnel	Pharmacy personnel-delivered interventions	Tobacco	Community pharmacies	Lower-intensity smoking cessation support or minimal intervention delivered by community pharmacy personnel	Smoking cessation and 6–12- month follow-up cessation	More intensive structured care > Less intensive care at longest follow-up	Not reported Not reported Yes

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	1998 1998–2017										
Davis et al. 2015	All (n = 10) 1994–2013	Not reported RCT	Treatment intensity	Behavioural therapies (including CBT, ME, CM, RP)	Technology-based interventions Group treatment Individual therapy	Cannabis	Not reported	Group vs. individual, in person vs. telephone or internet based	Cannabis reduction (various measures), abstinence, frequency of cannabis use. Severity of cannabis use, diagnostic symptoms	**Cannabis reduction (various measures)**: phone/internet = in person interventions, group = individual interventions, no dose-response identified	Not reported Not reported Yes
Engle & Macgowan 2009	Denis et al. 2004 Curry et al. 2003 **Kaminer** et al. 1998a **Kaminer** et al. 2002 **Kaminer** & Buleson 1999 Waldron et al. 2001 Latimer et al. 2003 Wagner et al.	Not reported Pre-post single group design (3), Quasi-experimental (1), Experimental, randomised (8)	Group treatment	CBT+MI, supportive counselling, 12-step, CBT Family & Coping Skills, CBT, Interactional Therapy, Psychoeduation Therapy (PET), general group counselling	Group treatment	Not reported	Youth (not specified)	Comparison control (for 8 studies, not specified)	Substance use outcomes (varied)	**Substance use outcomes**: Psychoeducation and general group therapy based possibly efficacious, 8 other treatments demonstrated positive indicators of efficacy (CBT, psychoeducation, 12 step, general group therapy - very inconsistent reporting of results)	Not reported Not reported Yes

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	1999 Battjes et al. 2003 Joanning et al. 1992 Liddle et al. 2001 Azrin et al. 1994 Winters et a.l 2000 1992–2004										
Gates et al. 2016	All (n = 47) 1988–2014	US, Australia, Germany, Switzerland, Canada, Brazil, Ireland RCTs	Intervention intensity	CBT, MET, MET + CBT, CM, SS, MM, Drug counselling/education	Primarily individual psychotherapy	Cannabis	Outpatient, community-based	Inactive (including untreated)/minimally treated control or delayed treatment control or a second active psychosocial intervention	Cannabis use reduction	**Cannabis use (frequency and reduction)**: + four sessions delivered over longer than one month (high intensity) > low-intensity	Yes Not reported Yes
Jaehne et al. 2012	Borsari et al. 2007 Breslin et al.	Not reported	Stepped care	Mixed - Stepped care involved BI,	Stepped care	Alcohol and tobacco	University, Alcohol	No-intervention control,	Number of binge drinking episodes,	**Cost:** SC > control (1/2 studies) **Efficacy (Tobacco)**:	Not reported Not reported

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	1998 Bischof et al. 2008 Drummond et al. 2009 Reid et al. 2003 Smith et al. 2001 Cacciapaglia et al. 2006 1998–2009	RCT		CBT, MI, Pharmacotherapy			treatment program, Primary care, Hospital, Worksite	Standard care, other interventions (CBT, MI, BI)	drinks p/week, BAL, Mean percentage days abstinent, alcohol in g/day, Percent binge drinking, Average duration of counselling, Average cost per participant, Total alcohol consumption, Drinks p/drinking day, Abstinence	SC > Control (1/3 studies, effect not sustained at 12m) **Efficacy (Alcohol)**: SC = Comparator (Standard care, or no care) (3/4 studies, most studies underpowered to detect effects)	Yes
Karaparedd y 2019	Morse et al. 2006 King et al. 2000 Domino et al. 2005 Schutz et al. 2013 Tracy et al. 2007 Padgett et al. 2006 Baillie et al.	US, Canada, Australia RCT, Longitudinal, Quasi-experimental	Integrated care	Various (not fully reported)	Integrated care	Alcohol, heroin, cocaine	Homeless population, treatment settings (substance use, MH)	Standard care	Total costs, outpatient costs, substance use outcome	**Total cost**: Integrated care < standard care (2/3 studies, small effect) **Outpatient cost**: Integrated care < standard care (2/3 studies, small effect). **Substance use outcomes:** Integrated care > standard care (1/3 studies)	Not reported Yes Yes

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	2013 Graham et al. 2004 Drebing et al. 2005 Essock et al. 2006 Cohen & Hien 2006 2000–2013										
Kock et al. 2019	All (n = 42 studies) 2000–2019	US (30), UK (3), the Netherlands (2), Australia (2), Switzerland (1), China (1), Sweden (1), Turkey (1), India (1) RCT	Client characteristics (Socio-economic position tailored interventions)	Various (not fully reported)	Various - face-to-face, technology-based interventions	Tobacco	Socio-economically disadvantaged people	Non-tailored	Abstinence	**Abstinence**: Tailored intervention = non-tailored interventions	Not reported Not reported Yes
Kotsen et al. 2019	Judge 2005 McEwin 2006 **Bauld** 2006 **Bauld** 2009	England, Scotland, US	Group treatment	Not reported	Group treatment	Tobacco	Clinical, workplace	Individual treatment	Carbon monoxide validated prevalance quit	**Tobacco cessation**: Open group = Closed group formats, Group > Individual (8	Not reported Not reported

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	Brose 2011 Mardle 2012, Hiscock 2013) Dobbie 2015 McApline 2015 Foulds 2006 Santorelli 2015 2005–2015	Observational studies or treatment delivered in real world context only							rate at 4 weeks post target quit date.	studies), Individual + 1 session of group > Individual (1 study), Group+Individual > Group or Individual alone (1 study).	Yes
Lenaerts et al. 2014	All (n = 6) 1985–2005	US, UK, Belgium RCTs	Continuing care	Supportive phone calls; usual continuing care (individual and group); behavioural marital therapy, interactional couples therapy, CBT, MET, 12-step facilitation, RP, early warning signs RP,	Continuing care (individual and group, range of frequencies, contact usually 1–4 sessions per week for 10–15 weeks.)	Alcohol	Outpatient continuing care settings (following prior intensive treatment in intpatient /outpatient settings)	Usual continuing care (different between studies) no formal program, encouragement to attend at least 2 group sessions per year, individual supportive counselling, 12 step	Alcohol use frequency (measured via proportion of days abstinent, proportion of patients abstinent, time to first drink after discharge, length of longest dry period after discharge)	**Alcohol use frequency**: Intervention > usual continuing care. (for 3/5 studies; community nurse, relapse prevention, telephone calls)	Not reported Not reported Yes

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				community nurse FU (mix of individual and groups)				facilitation therapy, weekly support groups, social activities, medical FU			
Leske et al. 2016	Reese et al. 2014 Kypri et al. 2013 Scott Tonigan et al. 2013 Villanueva et al. 2007 Bennett 2009 Dunstan et al. 2014 Reifels et al. 2015 Woodall et al. 2007 Dickerson et al. 2014 2007–2015	US (5), New Zealand (2), Australia (2) RCT (3), Pre-post (6)	Client characteristics	Psychosocial and education, various	Culturally adapted vs. non-culturally adapted	Alcohol	Public health, University, AA meetings, SUD outpatient clinic, community MH clinic, non-clinical community MH recovery service, outpatient clinic (not further describe	Non-culturally adapted (not specified)	MH (DASS, BDI, K10), psychological wellbeing, alcohol (drinking frequency, drinking reduction), substance use, adaptive functioning	**Culturally unadapted:** Improved psychological wellbeing (1 study), Reduction in drinking (3 studies), reduction in academic problems (1 study). In particular, unadapted MET > CBT of 12-step for Native Americans (1 study). **Culturally adapted**: Culturally adapted CBT = reduced BDI, increased wellbeing (1 study), Culturally adapted goal setting and mentoring = increased adaptie functioning (1 study),	Yes Yes Yes

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
							d).			Other culturally adapted interventions = Decreased DASS, K10 scores (1 study), decreased alcohol consumption (1 study). **Culturally based interventions:** Improved medical/psychiatric status, no significant change in substance use outcomes (1 study)	
Livingstone-Banks et al. 2019	Killen et al. 1984 Brandon et al. 1987 Hall et al. 1987 Bruchkremer et al. 1991 Shoptaw et al. 2002 Hall et al. 1985 Lifrak et al. 1997	Not reported for this subgroup RCTs	Intervention intensity	Behavioural interventions for relapse prevention of 4 or more sessions (high intensity) vs less than 4 sessions (low intensity)	Face-to-face sessions	Tobacco	Not reported for this subgroup	Behavioural interventions for relapse prevention of 4 or more sessions (high intensity) vs less than 4 sessions (low intensity)	Cessation at longest follow-up	High intensity interventions (4 or more sessions) = low intensity interventions (less than 4 sessions)	Not reported Not reported Yes

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	1984–2002										
Livingstone-Banks, Ordonez-Mena et al. 2019	All (n = 75) 1979–2018	Primarily US. Others: UK, Spain, Hong Kong, Australia, Canada, the Netherlands, Switzerland, Norway, Lichtenstein, Germany, Belgium, Finland RCTs with minimum 6 m FU	Client characteristics (tailoring)	The content and format of the self-help programmes varied. The most frequently used materials were the American Lung Association (ALA) cessation manual: Freedom from Smoking in 20 days, and the maintenance manual: A Lifetime of Freedom from Smoking. Most other programmes were not named or described fully	Print-based self-help materials	Tobacco	Various: primarily community, population-based. Primary care	No treatment or brief advice/contact, standard care, active treatment (NRT), non-tailored programs, treatments with different media formats	Abstinence from smoking after at least six m FU in people smoking at baseline	**Non-tailored interventions:** Non-tailored print based self-help > no treatment (11 studies, small effect) Non-tailored print-based self-help = brief leaflet (6 studies) Non-tailored print-based self-help = brief contact without smoking cessation advice (4 studies) Non-tailored print-based self-help > brief contact without smoking cessation advice (4 studies) Non-tailored print-based self-help = brief contact when self-help provided as an adjunct to face-to-face smoking cessation advice (11 studies) **Individually tailored**	Not reported Not reported Yes

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										interventions: Tailored print based self-help > no self-help (12 studies) Tailored self-help > non-tailored self-help if tailored has more mailing/provision of materials (9 studies). Otherwise no difference. No benefit of self-help materials as adjunct to nicotine replacement therapy	
Lo Coco et al. 2019	All (n = 31 plus 2 follow-up reports) 1993–2016	US, Canada, Germany, Spain, Ireland, Brazil, China RCTs	Group treatment	Group therapy: Behavioural group therapy, mindfulness-based group therapy & RP, CBT group therapy & RP, coping skills training, ACT, multiple couples therapy, DBT, MI, MET	Group treatment	Alcohol (7 studies), Cocaine (6 studies), herioin/opioids (3 studies), cannabis (1 study). 11 studies: mixed substances 3 studies: substance not	Inpatient settings (6 trials); Outpatient settings (21 trials); day treatment program (3 trials)	No treatment control, Supportive group discussion, TAU, 12 Steps, social support group, progressive relaxation training, individual couples therapy,	Primary outcome: Abstinence Secondary outcome: Frequency of substance use; symptoms of substance use disorder; mental state (anxiety, depression, and general psychopatholo	**Abstinence:** Group therapy > no treatment, individual therapy, and other treatments applying no specific psychotherapeutic techniques. **Frequency of substance use:** Group therapy = no treatment, individual therapy and other treatments applying no specific	Yes Not reported Yes

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Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
						specified		individual comprehensive validation therapy+12 steps, individual CBT, individual counselling	gy), and attrition	psychotherapeutic techniques. Frequency of substance use: **Symptoms of SUD:** Group therapy = no treatment, individual therapy and other treatments applying no specific psychotherapeutic techniques. **Mental State (pooled data for depression, anxiety and general psychopathology):** Group therapy > no treatment Group therapy = individual treatment and other treatments	
Luty 2015	All - Narrative review only 2005–2015	Not reported Not reported	Brief vs. long interventions, Couples interventions	AA and 12-Step, MI, CBT, CM, CFA, BI, behavioural couples therapy, social behaviour and	Brief vs. long interventions, Couples interventions	Alcohol, Cannabis, Cocaine, Opioids	Not reported	Brief vs. longer interventions, not fully reported	Not fully reported	**Outcome:** longer interventions = brief interventions, MI > control (small effect size), CM > control (robust effect sizes), CBT, CRA > control (low-moderate effect	Not reported Not reported Yes

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Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				network therapy						sizes)	
Martin & Rehm 2012	All - Narrative review only Not reported	Not reported Not reported	Client characteristics Therapist factors	BI, MET/MI, CFA, behavioural self-control training, behaviour contracting, social skills training, and behavioural couples therapy, CBT	Matching and treatment and client characteristics, therapist factors	Alcohol	Not reported	Not reported	Not reported	**Treatment outcome**: Therapist factors have been found to account for significant amounts of treatment outcome. Therapist factors reported as important are: empathy, understanding and support, goal direction, and the use of external resources. Strong working alliance is reported as important. Fidelity to treatment lessens the effect of therapist factors. There is low evidence for matching clients to specific treatments. Suggests that the least intensive treatment should be offered in stepped-care framework, as there is weak	Not reported Not reported Not reported

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
										evidence for longer durations of treatment	
Penzenstadler et al. 2017	All (n = 14) Guydish et al. 2011 Essock et al. 2006 Huber et al. 2003 Lindahl et al. 2013 **Morgenstern et al. 2006** **Morgenstern et al. 2009-1** **Morgenstern et al. 2009-2** Plater-Zyberk et al. 2012 Prendergast et al. 2011 Rapp et al. **Saleh et al. 2002** **Saleh et al. 2003** Scott et al. 2002 Siegel et al.	US, EU, Canada RCTs	Case management	Case management interventions (varies between studies), all services were conducted by case managers with professional background (nursing, social work, MH care).	Case management, Length varied 1m–3yrs (6–12m most common), Intensity of the case management intervention rarely reported	SUD/Substance Abuse (no differentiation made). Opioids	Community D&A outpatient settings	TAU, Standard clinical case management, standard drug abuse treatment, usual care in treatment centres, usual care in community, passive referral	Change in D&A use Adherence to SUD treatment (measured in attendance rates) Linkage to other healthcare providers Healthcare use (days of hospitalisation, emergency ward visits, health costs) Global functioning, employment rates, reduction of social/legal/family problems, clietnt satisfaction.	12 of the 14 studies found sig improvement in some or all of their outcome measures: Case management > Control for: **Decrease in substance use:** 5 studies **Likelihood of initiating SUD treatment increase:** 2 studies **Greater treatment retention:** 4 studies **Improved access to healthcare/linkage to other providers:** 4 studies **Days spent in hospital:** 1 study increase; 1 decrease **Increased Global functioning (more employment days):** 7 studies	Yes Yes Yes

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Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	1996 Slesnick & Erderm 2013 Strathdee et al. 2005 1996–2013										
Roberts et al. 2016	All (n = 14 2004–2015	US (12), Australia (2) RCTs	Integrated care	Trauma-focussed therapy: any therapy including trauma-focussed CBT or Eye Movement Desensitisation and Reprocessing. Non-trauma focussed therapy for PTSD and/or AOD use disorders: Any CBT therapy addressing PTSD and SUD that does	Integrated care	Alcohol Poly drug use	Primarily outpatient substance use treatment settings	WL controls Usual care Minimal interventions Other psychological therapies	Substance use related outcomes: Reduction in drug use and alcohol use	**Substance use outcomes**: Individual trauma-focussed therapy + adjunctive SUD intervention = TAU for PTSD/minimal intervention (and at 3-4 and 5-7m FU), Individual trauma-focussed therapies > TAU (at 5-7m FU only), Group therapy = TAU/minimal intervention, **Reduced drug and alcohol use**: Seeking Safety (coping skills based non-trauma focussed group therapy) > control (at post-treatment but not FU)	Yes Not reported Yes

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Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				not include trauma-focussed CBT or exposure therapy for PTSD symptoms. Active psychological therapy for AOD use only: CBT for substance use, 12 step programs, CM, reinforcement-based therapies. Seeking Safety (non-trauma focussed coping skills approach) - individual.							
Stead et al. 2017	All (n = 66)	Not reported	Group treatment	Various Bis, primarily CBT, information &	Group treatment	Tobacco	Community, primary	Self-help, individual counselling,	Abstinence from smoking at least 6 m	**Abstinence**: Group therapy > self-help (13 studies)	Not reported Not reported

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
	1981–2012	RCTs		advice			care, workplaces. People with cardiovascular disease, diabetes, schizophrenia, people in outpatient alcohol treatment	another intervention or no intervention (including usual care or WL control).	after starting treatment (self-report with/without biochemical validation)	Group therapy > brief support from healthcare provider (14 studies) Group therapy > no intervention (9 studies) Group therapy = individual counselling (6 studies)	Yes
Tanner-Smith et al. 2013	All (n = 45) 1981–2008	US (majority), other locations not specified Experimental and quasi-experimental studies	Group treatment	Behavioural therapy, family therapy, group and mixed counselling, CBT, MET, CBT/MET, psychoeducational therapy, skills training. Therapies divided into 4 groups: 1 No treatment and	Group treatment Family therapy Individual therapies	Substance use (including cannabis, mixed substance use, alcohol, other substances)	Outpatient treatment settings	Neutral/no-treatment/placebo control (few studies), another active treatment (most studies)	Abstinence, 30-day use, frequency of use, problems associated with use (Specific outcomes not described for individual studies. All analysed together for overall effect sizes)	**Substance use outcomes**: majority of effect sizes for comparisons between treatment conditions were not significant. Exceptions: Family therapy > group/mixed counselling, PET Family therapy > all comparison therapies analysed together (behavioural, CBT,	Not reported Not reported Yes

Question 3. ***Other care processes and models***

Publication reference	Study references Study year/s	Study location/s Study design/s	Details of therapeutic process and/or service/care delivery model	Details of the psychosocial intervention	Delivery mode/s of intervention	Substance type treated	Setting	Comparison/ Control groups	Outcomes	Results relating to question	Positive outcomes: General health Wellbeing Harm reduction
				placebo control conditions 2 Psychoeducation therapy, group/mixed counselling, practice as usual 3 CBT, MET/CBT, MET 4 Family therapy						group/mixed counselling, MET/CBT, PET, practice as usual). MET > no treatment MET > all comparison therapies analysed together (group/mixed counselling, PTE, skills training, practice as usual, no treatment). **Change in substance use outcomes**: 311 pre-post treatment substance use effect sizes analysed. Overall across all treatments: Significant decrease in substance use after treatment. Converting to number of days used in past month: Greatest reductions were for cannabis 13 to 6 days) and mixed	

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										substance use (10 to 5 days), smallest for alcohol (2 to 0.6 days) and other specific (e.g. cocaine) substances (3.5 to 2.7 days)	
Ullman et al. 2012	Brown et al. 2002 Delucchi & Kaskutas 2010 Humphreys et al. 1994 Laudet 2006 Moos et al. 2006 Timko et al. 2000, 2002 2005 1994–2010	Not reported Cross-sectional, observational with FU; RCT	Group treatment	AA and other mutual aid groups	Group treatment	Alcohol	In-community; Outpatient	No control/comparison; TAU (e.g., traditional behavioural treatment; RP)	Positive drinking outcomes (e.g. consumption, alcohol-related problems; alcohol-related help-seeking); Abstinence; Psychosocial outcomes (e.g. quality of life, stress, coping).	**Positive drinking outomes:** women > men AA (mixed findings); women AA > women TAU **Abstinence rates:** women > men in AA (mixed findings). **Psychosocial functioning:** women = men in AA (mixed findings).	Yes Yes Yes

Care process/model	Level of Evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Group treatments	**Level I Evidence** (Based on synthesis of studies in a Cochrane Review; Stead et al. 2017)	**B** (Systematic review pooling results from Level I studies with mostly low to moderate/unclear risk of bias).	**C** (Some inconsistencies which can be explained by the type of Comparator/Control)	**C (**May inform clinical guidelines to some extent, but more research needed).	**C** (Sample quite heterogenous, but largely primary care which may not translate to AOD specific populations)
Intervention intensity	**Level I Evidence** (Based on synthesis of studies in a systematic review of RCTs, Gates et al. 2016)	**B** (Systematic review pooling results from Level I studies with mostly low to moderate/unclear risk of bias).	**B** (Some inconsistencies which can be explained by the type of Comparator/Control)	**C (**May inform clinical guidelines to some extent, but more research needed)	**C** (Unclear whether findings would generalise to other AOD using groups other than those using cannabis)
Client characteristics	**Level I Evidence** (Based on synthesis of studies in a systematic review and meta-analysis of RCTs; Kock et al. 2019)	**C** (Systematic review pooling results from Level I studies, however only 14% of studies found to be Low risk of bias).	**B** (Some inconsistencies which can be explained by differences in the interventions used)	**C (**May inform clinical guidelines to some extent, but more research needed)	**B** (Findings likely to generalise, however not completely reflective of current population of interest)
Integrated care	**Level I Evidence** (Based on synthesis of studies in a systematic review of RCTs, Roberts et al. 2016)	**C** (Systematic review pooling results from Level I studies with mostly low to moderate/unclear risk of bias)	**C** (Some inconsistencies which reflect uncertainty due to the small number of studies included).	**C** (May inform clinical guidelines to some extent, but more research needed).	**C** (Unclear whether findings would generalise to groups with other mental health disorders aside from PTSD)
Stepped care	Could not be determined based on current review of the secondary literature (pooled findings show no intervention-related effects on outcomes)	Could not be determined	Could not be determined	Could not be determined	Could not be determined
Continuing care	**Level I Evidence** (Based on synthesis of studies in a systematic review of RCTs; Lenaerts et al. 2014)	**D** (Systematic review pooling results from Level I studies most of which had unclear risk of bias)	**C** (Some inconsistencies which reflect uncertainty due to the small number of studies included).	**C—D** (May inform clinical guidelines to some extent, but more research needed)	**C** (Unclear whether findings would generalise to other AOD using populations aside from those with alcohol use disorders)

Care process/model	Level of Evidence (based on best available evidence)	Quality of evidence assessment – Evidence base (A–D)	Quality of evidence assessment – Consistency (A–D)	Quality of evidence assessment – Clinical impact (A–D)	Quality of evidence assessment – Generalisability (A–D)
Stage-based interventions	Could not be determined based on current review of the secondary literature (pooled findings show no intervention-related effects on outcomes)	Could not be determined	Could not be determined	Could not be determined	Could not be determined
Case management	**Level 1 Evidence** (Based on synthesis of studies in a systematic review of RCTs; Penzenstadler et al. 2017)	Could not be determined	**B** (Some inconsistencies which can be explained by the type of Comparator/Control and design variations)	**C** (May inform clinical guidelines to some extent, but more research needed).	**A** (AOD specific populations in Western samples, likely to generalise)
Therapist factors and alliance	Could not be determined based on current review of the secondary literature	Could not be determined	Could not be determined	Could not be determined	Could not be determined