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Evidence check

Key domains for youth outcome measurement in alcohol and other drug treatment

An Evidence Check rapid review brokered by the Sax Institute
for the NSW Ministry of Health—July 2024

An Evidence Check undertaken by 360Edge for the Sax Institute and the NSW Ministry of Health, July 2024.

This report was prepared by: Dr Katinka van de Ven, Suz Stainthorpe, Dr Richard Cash, Paula Ross, Dr Amanda Davies and Professor Nicole Lee.

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Key domains for youth outcome measurement in alcohol and other drug treatment

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Contents

Outcome tools glossary

Acronym/short name	Full name
ADAD	Adolescent Drug Abuse Diagnosis
ASC T-ASI	Abbreviated Self Completion Teen-Addiction Severity Index
ATOP	Australian Treatment Outcomes Profile
AUDIT	Alcohol Use Disorders Identification Test
BFS	Behaviour and Feelings Survey
CASI-A	Comprehensive Addiction Severity Index for Adolescents
CHAT	Comprehensive Health Assessment Tool for Teens
CORS	Child Outcome Rating Scale
DCI-A	Dimensions of Change Instrument—Adolescent
DCI-A-SF	Dimensions of Change Instrument—Adolescent Short Form
GAIN	Global Appraisal of Individual Needs scales
HoNOSCA	Health of the Nations Outcome Scale for Children and Adolescents
K10/K6	Kessler Psychological Distress Scales
Ohio scales	Ohio Youth Problems, Functioning, and Satisfaction Scales
ORS	Outcome Rating Scale
POSIT	Problem Oriented Screening Instrument for Teenagers
SACS	Substances and Choices Scale
SDS	Severity of Dependence Scale

SRS	Session Rating Scale
T-ASI	Teen Addiction Severity Index
TCU-ASAP	Texas Christian University Adolescent Screening and Assessment Package
WASC-Y	Westerman Aboriginal Symptom Checklist for Youth
WHOQOL-BREF	World Health Organisation Quality of Life—BREF
YP-CORE	Young Person's Clinical Outcomes in Routine Evaluation

Executive summary

Background

Outcome measurement forms an important part of treatment for people accessing alcohol and other drug services. With 9.3% of clients accessing alcohol and other drug treatment services in Australia being aged between 10 and 19, there is a need to ensure that outcomes measured in this client population are meaningful and relevant and measured using tools that are validated in young people.

The NSW Ministry of Health has commissioned this Evidence Check to identify relevant outcome domains for young people accessing alcohol and other drug treatment, and existing validated tools that measure these domains.

Evidence Check questions

This review addresses the following questions:

Question 1—What does the literature suggest are important outcome domains to assess among people aged <18 years who engage with voluntary alcohol and other drug treatment of any type (e.g. counselling, case management, residential withdrawal, residential rehabilitation, opioid substitution therapy)?

Question 2—What outcome measures have been used to assess these domains among young people aged <18 years engaging with alcohol and other drug treatment?

Question 3—How have these outcome measures performed when specifically applied to this cohort, in terms of comprehensiveness, acceptability, psychometric properties (including the ability to detect change over time in clinical treatment settings), modes of administration, formats, ease of administration and scoring, and capacity to generate clinically relevant feedback in the context of a clinical encounter?

Question 4—Does the research evidence make different recommendations regarding the application and use of existing outcome measures based on the age of the young people under consideration?

Summary of methods

We undertook a rapid literature review of peer-reviewed and grey literature, searching five electronic databases for published papers as well as additional grey literature databases. We also included clinical frameworks and guidelines relevant to young people in alcohol and other drug treatment, and hand-searched reference lists from retrieved manuscripts to identify additional literature. See Appendix A for more detail.

We extracted details of publications in a table and undertook a quality assessment at a group level. This evidence was synthesised to inform the report. We used the National Health and Medical Research Council (NHMRC) body of evidence matrix for the quality assessment, which was based on an overall assessment of the included peer-reviewed studies. The matrix includes five components: *the level of evidence, the consistency, the clinical impact, the generalisability* and *the applicability* of the body of evidence. See Appendix D for more detail.

Key findings

We identified 3688 publications, of which 38 met the inclusion criteria for the final review, including 26 peer-reviewed studies and 12 grey literature sources. Most peer-reviewed studies (57.7%) were conducted in the US, with only one study (3.8%) conducted in Australia. Of the grey literature sources, 41.7% were based in Australia. Overall, the quality of the evidence of the included peer-reviewed studies was considered satisfactory to good for all components in the NHMRC body of evidence matrix except for the *level of evidence* component, which was poor to satisfactory.

Question 1—What does the literature suggest are important outcome domains to assess among people aged <18 years who engage with voluntary alcohol and other drug treatment of any type?

We identified 12 outcome domains in the peer-reviewed and grey literature that were clinically important domains to assess among young people engaged in alcohol and other drug treatment. The following outcome domains include those that were identified as important domains in the lives of young people engaged in alcohol and other drug treatment, and/or those that are measured as a part of an outcome monitoring tool.

Alcohol and other drug use: This was reported in 76.3% of publications as an important domain. There was no consistent approach to measurement of use. For example, some report abstinence levels whereas others report the quantity or frequency of alcohol and other drug use.

Peers and social networks: This domain was reported in 60.5% of publications. Treatment often aims to maintain and extend prosocial social supports while reducing engagement with drug-using peers.

Mental health and wellbeing: This was a key domain in 55.2% of publications, because of the high proportion of young people with alcohol and other drug use issues who also have co-occurring mental health issues.

Family: This was a key domain reported in 47.3% of publications. Family is integral to young people, and strengthening family relationships is important in supporting alcohol and other drug treatment.

Education: This domain was reported in 42.1% of publications. Participating in education, such as school or vocational training, is integral to development and wellbeing and is an important setting for developing social connections.

Justice: This was reported as an important domain in 36.8% of publications. Young people in alcohol and other drug treatment are at high risk of coming into contact with the criminal justice system.

Employment: Employment was reported in 26.3% of publications. Participation in employment can provide structure and support young people to build life skills and develop positive social connections.

Risk taking: Risk taking was reported in 23.7% of publications. Young people in alcohol and other drug treatment tend to report risky sexual behaviours and, among those who inject, risky injecting practices.

Motivation: This domain was reported in 23.7% of publications. Motivation to change is an outcome in itself and also an indicator of engagement in treatment.

Physical health: 18.4% of publications reported physical health as a key domain. Sleep, physical activity and diet are essential for improving and maintaining good mental health and wellbeing in young people.

Accommodation: Accommodation was reported in 13.2% of publications. Young people in alcohol and other drug treatment are at high risk of homelessness and are more likely to be living in temporary housing arrangements.

Quality of life: This domain was reported in 13.2% of publications. Quality of life is an important outcome domain and is influenced by many of the above domains.

Question 2—What outcome measures have been used to assess these domains among young people aged <18 years engaging with alcohol and other drug treatment?

A very wide range of outcome tools have been used to assess one or more of the above domains in young people; 47 outcome tools have been identified in total. Outcome tools can measure a single domain or a combination of multiple domains, and not all measure alcohol and other drugs use directly. Most outcome tools (55.3%) measure only one domain, while 44.7% measure two or more domains.

Question 3—How have these outcome measures performed when specifically applied to this cohort?

The outcome tools identified generally have good reported validity and reliability; however different methods have been used to assess these psychometric properties across different contexts.

Most outcome tools have not been developed specifically for young people, they have not been validated for young people in alcohol and other drug treatment, and their acceptability to young people is unknown.

Outcome tools are generally completed by the clinician or young person and take from 5–15 minutes. Some outcome tools are easy to score (for example, the Substances and Choices Scale [SACS]); others are complex to score and require software, such as the World Health Organization Quality of Life—BREF (WHOQOL-BREF).

Most outcome tools can be used to provide clinical feedback as a part of treatment, but not all are quick and easy to score. Most outcome tools require minimal or no training to administer and score, with the more complex tools requiring more training, such as the Health of the Nations Outcome Scale for Children and Adolescents (HoNOSCA).

None of the identified outcome tools will completely meet the needs of clinicians and young people in alcohol and other drug treatment. For example, some tools have good reliability and validity but have not been tested for young people in alcohol and other drug treatment or in Australia. Other tools have been tested for young people in alcohol and other drug treatment but take 45 minutes or longer to complete.

Some of these tools can be used as standalone tools as they measure multiple domains (such as the Teen Star). Some need to be combined with other measures as they assess a single domain only (for example, the SDS could be combined with the ORS or CORS).

The most clinically relevant outcome measures for young people in alcohol and other drug treatment were:

Abbreviated Self Completion Teen-Addiction Severity Index (ASC T-ASI)

Ohio Youth Problems, Functioning, and Satisfaction Scales (Ohio scales)

Outcome Rating Scale (ORS)

Child Outcome Rate Scale (CORS)

Substances and Choices Scale (SACS)

Severity of Dependence Scale (SDS)

Teen Star

Young Person's Clinical Outcomes in Routine Evaluation (YP-CORE).

Question 4—Does the research evidence make different recommendations regarding the application and use of existing outcome measures based on the age of the young people under consideration?

Very few publications made recommendations regarding the utility, administration and scoring of outcome tools based on age group.

Only three tools were designed for specific age groups, and two tools had different scoring systems based on age.

Recommendations

- We identified the ASC T-ASI, Ohio scales and Teen Star as relevant tools that can be used to measure a range of relevant domains, including alcohol and other drug use, among young people receiving treatment. The ORS and CORS, SACS, SDS and YP-CORE are suitable tools that measure one or a few domains and should be used in conjunction with other tools.
- Very few outcome tools were developed in consultation with young people. The development of any new outcome tools should involve consultation with young people across different age groups. As an example, none of the publications discussed whether the domains were identified as important by young people themselves. A future research priority should be confirming what outcome domains are important to young people receiving alcohol and other drug treatment.
- Embedding validated tools that are widely used among both young people and adults in the alcohol and other drugs sector in clinical data systems increases the chance of outcome data being successfully collected and applied and facilitates comparisons over time.
- Some changes to the Australian Treatment Outcomes Profile (ATOP) are required to ensure its clinical utility in young people. For example, outcome domains such as peers and social networks and family should be considered for addition. Any adjustments to the ATOP should be undertaken in consultation with young people, and its reliability and validity tested in this population.
- Across the Evidence Check, publications were highly diverse and few tools were tested in the Australian context or in young people receiving alcohol and other drug treatment. Future research is required to examine how the same outcome tools perform in young people receiving alcohol and other drug treatment across diverse treatment settings, interventions and substances in Australia.
- We did not identify any culturally specific outcome domains or measures in the publications. Future research should also focus on developing new tools or testing existing tools in Aboriginal and Torres Strait Islander young people receiving alcohol and other drug treatment.

Background

Outcome measurement forms an important part of treatment for people accessing alcohol and other drug services. It can be used for assessment, progress monitoring and treatment planning; strengthening communication and therapeutic alliance; and promoting self-awareness and reflection.

With 9.3% of clients accessing alcohol and other drug treatment services in Australia aged between 10 and 19[1], there is a need to ensure that outcomes measured in this client population are meaningful and relevant and measured using tools that are validated in young people. Although some studies exist that have reviewed which outcome tools are used within the alcohol and other drug field, none have specifically looked at outcome domains and tools relevant for young people.

Young people's experiences, circumstances and challenges are different from those of adults in several ways. Generally, young people have a strong reliance on parents and caregivers, are involved in school, are more likely to engage in risk-taking behaviours, and are strongly associated with their peers. As such, it would be reasonable to expect that outcome domains relevant to young people would differ from those relevant to adults.

Accordingly, the NSW Ministry of Health's Alcohol and Other Drugs Value Based Healthcare Team has commissioned this Evidence Check to understand the outcome domains that are key among young people in alcohol and other drug treatment, and the existing validated tools that measure these domains.

This will support the Alcohol and Other Drugs Value Based Healthcare Team to determine whether existing outcome measures cover key outcome domains, are acceptable to young people, and have good psychometric properties when used in young people receiving alcohol and other drug treatment.

Methods

Aims and scope of the study

We conducted an Evidence Check review using a rapid evidence assessment methodology. A rapid review uses similar methods to a systematic review but makes concessions to the depth of the process to ensure it is completed within a short time frame. Although rigorous methods are used for searching, analysing and synthesising the evidence related to a specific topic, several limitations are placed on the search criteria and assessment (for example, a specific time frame).

We addressed the following research questions:

Question 1—What does the literature suggest are important outcome domains to assess among people aged <18 years who engage with voluntary alcohol and other drug treatment of any type (e.g. counselling, case management, residential withdrawal, residential rehab, opioid substitution therapy)?

Question 2—What outcome measures have been used to assess these domains among young people aged <18 years engaging with alcohol and other drug treatment?

Question 3—How have these outcome measures performed when specifically applied to this cohort, in terms of comprehensiveness, acceptability, psychometric properties (including the ability to detect change over time in clinical treatment settings), modes of administration, formats, ease of administration and scoring, and capacity to generate clinically relevant feedback in the context of a clinical encounter?

Question 4—Does the research evidence make different recommendations regarding the application and use of existing outcome measures based on the age of the young people under consideration?

We synthesised the evidence to report recommendations on relevant outcome domains and appropriate outcome measurement tools for use with youth in alcohol and other drug treatment.

Search strategy

In consultation with the Centre for Alcohol and Other Drugs Value Based Healthcare Team, their expert advisers and the Strategic Research and Evaluation team, we developed a search strategy that

covered literature published from 2009 onwards[*], targeting five databases: Cochrane, PsycINFO, Scopus, Medline and CINAHL.

We also sought to identify grey literature from SAMHSA's (US Substance Abuse and Mental Health Services Administration) National Registry of Evidence-Based Programs and Practices, headspace, the Ted Noffs Foundation, Orygen Youth Mental Health, Alcohol and Drug Foundation, Google and Google scholar.

Our inclusion criteria were:

- Peer-reviewed publications
- Grey literature
- Published in English
- Examines young people aged <18 *and* alcohol and other drugs outcomes, outcome domains, and/or outcome tools
- OECD countries
- Published from 2009 onwards.[*]

Our exclusion criteria were:

- Not published in English
- Does not focus on young people aged <18
- Does not focus on alcohol and other drugs outcomes, outcome domains, and/or outcome tools
- Not undertaken in a treatment setting
- Editorials, commentaries, doctoral dissertations, theses and books
- Non-human studies
- Focused on screening or diagnostic tools that do not measure change over time.

We also included clinical frameworks and guidelines recommended by Centre for Alcohol and Other Drugs Clinical Advisor, the Substance Use and Choices Scale (SACS) as recommended by a youth alcohol and other drugs medical practitioner, and hand-searched reference lists from retrieved manuscripts to identify additional literature.

A detailed overview of the search strategy can be found in Appendix A.

Study screening and data extraction

Records were first checked for duplicates, which were removed. We then screened titles and abstracts, before reviewing eligible full-text publications. Details of the full-text publications were extracted into a table.

We assessed quality using the National Health and Medical Research Council (NHMRC) body of evidence matrix.[2] The quality assessment is based on an overall assessment of the included peer-reviewed studies. The matrix includes five components: *level of evidence, consistency, clinical impact, generalisability* and *applicability* of the body of evidence. See Appendix D for more detail about the quality assessment.

[*] Literature published before 2009 was included if there was a strong justification for its inclusion. For example, expert advisers recommended that we include the SACS, for which relevant literature preceded 2009.

Findings

In total, we identified 3648 studies in the peer-reviewed databases and 40 publications through other sources, including grey literature databases and hand searching. After removing duplicates, we screened 1951 titles and abstracts. Of those, 70 met the eligibility criteria and the full text was reviewed for inclusion in the Evidence Check. Thirty-eight publications met the inclusion criteria and were included in the final review, including 26 peer-reviewed studies and 12 grey literature sources. Appendix B provides a PRISMA flow diagram summarising the search process and outlines reasons for exclusion.

Of the 26 included peer-reviewed studies, most (57.7%) were conducted in the US with only one (3.8%) conducted in Australia. Other countries included the UK, Canada, the Netherlands, New Zealand, Spain, Brazil and Denmark. Of the grey literature sources, 41.7% were based in Australia. Table C1 and C2 in Appendix C list all included publications, outlining their objective, sample size and setting, design, intervention/methods and main findings.

In Table D1 in Appendix D, there is also an overview of the quality of the evidence using the NHMRC matrix. Overall, the evidence is considered satisfactory to good, except for the *level of evidence* component (poor to satisfactory).

Key outcome domains for young people in alcohol and other drug treatment

Alcohol and other drug use, peers and social networks, mental health and wellbeing, family, education, justice, employment, risk taking, motivation, physical health, accommodation and **quality of life** are the most important outcome domains for young people engaged in alcohol and other drug treatment.

In total, we identified 12 outcome domains across the Evidence Check (see Table 1). The following outcome domains include those that were identified as important domains in the lives of young people engaged in alcohol and other drug treatment, and/or those that were measured as a part of an outcome monitoring tool. Importantly, most outcome domains were identified by clinicians or researchers, with minimal input from young people themselves.

Alcohol and other drug use was identified as a key domain in 76.3% of publications.[3-31] While it might be expected that alcohol and other drug use would be identified as an outcome domain in 100%

of publications, a number of publications focused on outcome domains other than alcohol and other drugs within the alcohol and other drug treatment context. In addition, as noted in the Dovetail Framework for Youth Alcohol and Other Drug Practice, the focus should be on outcomes that are meaningful to the young person[8]; for some, modifying alcohol and other drug use is not a key priority. Aspects of alcohol and other drug use that may be measured include level/symptoms of dependence; consumption patterns, including frequency and quantity of use; and severity of associated problems.

Peers and social networks were identified in 60.5% of publications.[5, 6, 8-11, 15, 17, 19-22, 24-26, 29, 30, 32-37] It was emphasised that relationships with peers are of critical importance to young people engaged in alcohol and other drug treatment.[5, 6, 20] Peers are highly influential on young people with alcohol and other drug use issues, and can reinforce use or promote recovery.[5] Reducing a young person's contact with peers who use alcohol and other drugs is important to reducing substance use.[30] At the same time, maintaining positive peer connections is key to avoiding social isolation and supporting a young person in achieving and maintaining their treatment goals.[5, 30] Elements of peers and social networks that can be measured include peer relations, peer influence, social support, social functioning and social networks.

Mental health and wellbeing was identified in 55.2% of publications.[3-5, 8-10, 13, 15, 17, 19-22, 24-27, 30, 33, 36, 38] Rates of mental health problems are high among young people engaged in alcohol and other drug treatment[5, 20], with more than 50% of young people with alcohol and other drug use issues having co-occurring mental health issues.[20] Psychological distress, symptoms of depression and anxiety, subjective wellbeing and sense of happiness are aspects of mental health and wellbeing that may be measured.

Family was identified in 47.3% of publications.[5, 8, 9, 11-13, 15, 17, 19-22, 24-26, 33, 34, 36] Similarly to peers, family is considered an integral domain in young people engaged in alcohol and other drug treatment[5, 8, 20] Although family forms part of the social network of a young person, most publications reported this as a separate outcome domain from peers and other social networks. Strengthening family relationships plays an important role in supporting the recovery of a young person experiencing alcohol and other drug problems.[20] Parents and caregivers can play a role in both preventing and intervening in alcohol and other drug use. Measurable family aspects include family functioning, family conflict and family relationships.

Education was identified in 42.1% of publications.[3, 5, 8, 9, 11-13, 15, 19-22, 24-26, 33] Although participation in education is integral to development and wellbeing and offers an important opportunity to develop social connections, young people engaged in alcohol and other drug treatment are often not highly engaged in school or training.[5, 8] School and training engagement, performance and attendance are aspects of education that can be measured.

Justice was identified in 36.8% of publications.[5, 9-11, 19-22, 24-27, 30, 36] Young people engaged in alcohol and other drug treatment are significantly more likely to have been charged with a crime or incarcerated compared with young people in the general population.[5] Aspects related to justice that may be measured include criminal activity, behaviours and thinking, and contact with the criminal justice system.

Employment was identified in 26.3% of publications.[3, 5, 11, 13, 15, 20, 22, 24-26] Employment is most relevant to young people aged over 15, which is generally the minimum age for employment in Australia. Participation in employment can provide structure and support young people to build life skills and develop positive social connections.[5] Employment status, employment engagement and work relations are elements of employment that may be measured.

Risk taking was identified in 23.7% of publications.[5, 8, 10, 11, 15, 19, 20, 36, 38] Young people are generally more likely to engage in risk-taking behaviours[8], and young people engaged in alcohol and other drug treatment report risky sexual behaviours and, among those who inject drugs, risky injecting practices.[5] Aspects of risk taking that may be measured include risk-taking behaviours, injecting behaviours and sexual risk taking.

Motivation was identified in 23.7% of publications.[5, 11, 18, 20, 24, 34-36, 39] Motivation to change is an outcome in itself and also an indicator of engagement in treatment. It was emphasised that motivation should be regularly monitored among young people engaged in alcohol and other drug treatment.[5, 18, 20] Young people are more likely to present for treatment because of external pressures such as family and school, and levels of motivation tend to fluctuate.[5, 18, 20] Increasing engagement and motivation should, therefore, form an essential part of treatment. Self-efficacy, readiness to change and personal determination are aspects of motivation that may be measured.

Physical health was identified in 18.4% of publications.[9-11, 19-21, 26] Sleep, physical activity and diet are essential for improving and maintaining good mental health and wellbeing in young people. There is also some overlap between the domains of physical health and risk taking; sexual activity and injecting, and related risks, can be considered aspects of physical health. General health status, physical functioning and health functioning are other aspects of physical health that can be measured.

Accommodation was identified in 13.2% of publications.[5, 8, 11, 13, 15] Young people are at high risk of experiencing homelessness, and young people in alcohol and other drug treatment are more likely to have temporary housing arrangements, such as living in residential or foster care.[5] Stable and affordable housing is a protective factor against problematic alcohol and other drug use.[8] Aspects of accommodation that may be measured include housing status and housing stability.

Quality of life was identified in 13.2% of publications.[5, 10, 22, 25, 35] Quality of life is an important outcome domain and is influenced by many of the above domains, including peers and social networks, mental health and wellbeing, family, education, employment, physical health and accommodation. In addition to the measurable aspects of the above domains, life satisfaction, energy and sleep may be measured.

Table 1—Overview of outcome domains and related indicators

Outcome domain	Indicators
Alcohol and other drug use (76.3%)	Level of dependence Consumption patterns Problem severity
Peers and social networks (60.5%)	Peer relations Peer influence Social support Social functioning Social networks
Mental health and wellbeing (55.2%)	Psychological distress Symptoms of depression/anxiety Subjective wellbeing Sense of happiness

Outcome domain	Indicators
Family (47.3%)	Family functioning Family conflict Family relations
Education (42.1%)	School engagement School performance Attendance
Justice (36.8%)	Criminal activity Criminal behaviours Criminal thinking Contact with the criminal justice system
Employment (26.3%)	Employment status Employment engagement Work relations
Risk taking (23.7%)	Risk-taking behaviours Injecting behaviours Sexual risk taking
Motivation (23.7%)	Motivation Self-efficacy Readiness to change Personal determination
Physical health (18.4%)	General health status Physical functioning Health functioning
Accommodation (13.2%)	Housing status Housing stability
Quality of life (13.2%)	Peer relations Psychological distress Family relations School engagement Employment engagement Physical functioning Housing stability Life satisfaction Energy Sleep

Outcome tools used to assess outcome domains

We identified **47** outcome tools. Outcome tools can measure a **single domain** or a **combination of multiple domains**, and not all measure alcohol and other drug use directly. Most (55.3%) outcome tools measure a **single** domain and 21.3% measure **six or more** domains.

In total, we identified 47 outcome tools that have been validated for young people in alcohol and other drug treatment and/or have been used to measure outcome domains for young people in alcohol and other drug or mental health treatment. The tools include single domain measures (for example, measuring alcohol and other drugs only) or multiple domain measures (for example, measuring alcohol and other drugs, mental health and social relationships). Not all outcome tools measure alcohol and other drug use directly. Tables E1 and E2 in Appendix E provide an overview of all the outcomes tools used in the reviewed publications. When the reviewed literature did not have sufficient detail about the outcome tool, we conducted additional searches to add missing details to the tables (for example, by accessing the website on which a tool was located).

In total, 22 outcome tools measure the domain alcohol and other drugs, 19 measure the domain peers and social networks, 13 measure family, 28 measure mental health and wellbeing, nine measure education, 10 measure justice, seven measure employment, five measure risk taking, five measure motivation, six measure physical health, none measure accommodation, and one measures quality of life. Most (55.3%) outcome tools measure a single domain, while 14.9% measure two-to-three domains, 8.5% measure four-to-five domains, and 21.3% measure six or more domains.

Outcome tools that measure six or more domains include:

Abbreviated Self Completion Teen-Addiction Severity Index (ASC T-ASI)

Adolescent Drug Abuse Diagnosis (ADAD)*

Comprehensive Addiction Severity Index for Adolescents (CASI-A)*

European Adolescent Assessment Dialogue (EuroADAD)

Global Appraisal of Individual Needs Scales (GAIN) *

Ohio Youth Problems, Functioning, and Satisfaction Scales (Ohio scales)

Problem Oriented Screening Instrument for Teenagers (POSIT)

TCU Adolescent Screening and Assessment package (TCU-ASAP)*

Teen Addiction Severity Index (T-ASI)*

Teen Star

* Tested in young people in alcohol and other drug treatment

How the outcome tools perform

Good validity and reliability were reported for most outcome tools but only 20 (42.6%) have been tested in young people engaged in alcohol and other drug treatment. Most take **5–15 minutes** to complete. Young people have generally not been involved in the development of tools.

The following tools have been identified as the most clinically relevant[†] outcome measures for young people in alcohol and other drug treatment: **Abbreviated Self Completion Teen-Addiction Severity Index** (ASC T-ASI); **Ohio Youth Problems, Functioning, and Satisfaction Scales** (Ohio scales); **Outcome Rating Scale** (ORS) and the **Child Outcome Rate Scale** (CORS); **Substance and Choices Scale** (SACS); **Severity of Dependence Scale** (SDS**); Teen Star**; and **Young Person's Clinical Outcomes in Routine Evaluation** (YP-CORE).

Validity and reliability

Although good validity and reliability are reported for most outcome tools, it is hard to draw strong conclusions as different methods are used and different types of validity and reliability are reported. Additionally, some outcome tools have been tested for different populations and may not perform as well for young people in alcohol and other drug treatment in Australia.

Of the 47 outcome tools, only 20 (42.6%) have been tested for young people receiving alcohol and other drug treatment. Most tools (57.4%) have been tested for young people in the general population or who are receiving mental health treatment. The outcome tools that have been tested among young people in alcohol and other drug treatment have been tested in diverse settings, such as residential or outpatient treatment; across different substances; and in participants receiving different treatment types, such as brief interventions or cognitive behavioural therapy.

Very limited differentiation is made between different age groups. Most publications simply note the age range of participants. For the publications that do report differences, this is generally related to cut-off scores. There is only one tool that has specifically been developed for two different age groups: the Outcome Rating Scale (ORS) and the Child Outcome Rate Scale (CORS). Both tools measure the same domains but the format has been adjusted based on age group, with questions being asked and measured differently. The ORS is for young people aged 13–25 years and the CORS is for children between six and 12 years.

[†] The clinical relevance of an outcome tool was based on the clinical utility of an outcome tool in multiple domains including being easy and brief to score, apply and analyse; being applicable to the Australian context; being validated for young people in alcohol and other drug treatment; having the ability to generate clinically relevant feedback; being easily accessible; and/or being easy to apply (whether training is required).

Administration and scoring

Most tools are completed by the clinician and/or the young person themselves. Only a few outcome tools have the option for the caregiver to complete the measure, such as the ORS, CORS and Behaviour and Feelings Survey (BFS). All tools can be completed via hard or digital copies.

Most tools can be completed within 5–15 minutes, with tools requiring 5 minutes or less being the:

Dimensions of Change Instrument—Adolescent Short Form (DCI-A-SF)

Readiness Ruler

Abbreviated Self Completion Teen-Addiction Severity Index (ASC T-ASI)

Alcohol Use Disorders Identification Test (AUDIT)

Behaviour and Feelings Survey (BFS)

Outcome Rating Scale (ORS) and **Child Outcome Rating Scales** (CORS)

Kessler Psychological Distress Scales (K10 and K6)

Session Rating Scale (SRS)

Severity of Dependence Scales (SDS)

Young Person's Clinical Outcomes in Routine Evaluation (YP-CORE)

Some tools take 45–90 minutes to complete and although these tools often offer a short version, the reliability and validity is sometimes poorer in the short versions, such as with the GAIN scales.

Scoring is dependent on the tool. Some are easy to score with an easily calculated total score, such as the above tools. Others are complex and require software. Syntax files are generally provided for the more complex scoring tools, such as the World Health Organization Quality of Life—BREF (WHOQOL-BREF). Generally, tools that take longer to complete and are more complex to score are those that measure multiple domains, such as the GAIN scales. The complexity of scoring can affect how rapidly results can be communicated and used in treatment.

Outcome domains are measured in various ways and no strong conclusions can be drawn as to how domains should be measured. We found just one meta-analysis that examined whether the effects of brief alcohol interventions for young people varied according to the measurement characteristics of the alcohol outcomes used to capture intervention effects.[28] The authors included outcome tools measuring abstinence, frequency of drinking days, frequency of heavy drinking, quantity of drinking, maximum quantity and peak consumption and blood alcohol consumption. They found the outcomes for each measure generally were consistent in determining the extent of the young person's alcohol-related problems.

Involvement of and acceptability to young people

Most tools have not been developed with young people, or their level of involvement is unclear. It is also unclear for most tools whether their acceptability for young people was tested. Tools that have been developed in collaboration with young people generally have a high acceptability, such as the BFS and Substances and Choices Scale (SACS).

Most tools that have been co-designed with young people are aimed at mental health problems and/or those who receive mental health treatment. There are only a handful of tools that have been developed with young people receiving alcohol and other drug treatment, namely the CASI-A, the Comprehensive Health Assessment Tool for Teens (CHAT), the Dimensions of Change Instrument-Adolescent (DCI-A) and the SACS.

Clinical feedback and other considerations

Feedback from outcome tools to support treatment has become more widely used in alcohol and other drugs and mental health settings. Most outcome tools identified in our Evidence Check can be used to provide clinical feedback as part of treatment. Although all outcome tools can be used to provide clinical feedback, the ones that are quick to administer and score can be used to provide instant feedback, such as the SDS and SACS. Providing instant feedback has the advantage that it can strengthen treatment engagement.

In general, outcome tools are freely available, although not all of them are publicly available and some are hard to locate and require the author or developer of the tool to be contacted, such as the CASI-A and DCI-A. There are only a few tools for which a licence needs to be purchased and/or for which other costs apply, such as the Teen Star, GAIN and CHAT. Most outcome tools require no training or training is freely available, with tutorials or manuals provided, such as the Ohio scales. The outcome tools that require training are often the ones that measure multiple outcome domains and are more complex to administer and score, such as the Health of the Nations Outcome Scale for Children and Adolescents (HoNOSCA).

Clinically relevant tools in an Australian alcohol and other drugs context

An outcome measure needs to meet certain criteria for it to be clinically relevant. In this context, an outcome tool ideally needs to measure domains relevant to young people in alcohol and other drug treatment; be valid and reliable; brief, easy to administer and score; be suitable for the Australian context; generate clinically relevant feedback; and/or be accessible. None of the tools fulfil all these criteria.

Based on these criteria, the tools that seem most clinically relevant for young people in alcohol and other drug treatment are:

Abbreviated Self Completion Teen-Addiction Severity Index (ASC T-ASI)*

Ohio Youth Problems, Functioning, and Satisfaction Scales (Ohio scales)*

Outcome Rating Scale (ORS) and **Child Outcome Rating Scale** (CORS)

Substances and Choices Scale (SACS)

Severity of Dependence Scale (SDS)

Teen Star*

Young Person's Clinical Outcomes in Routine Evaluation (YP-CORE)

* Can be used as a standalone tool

The ASC T-ASI is a valid measure for assessing self-reported problems in important domains for young people receiving alcohol and other drug treatment. The English version does not seem to be validated, only the Dutch version. As such, it has not been used or validated in an Australian context. It measures the domains alcohol and other drug use, education, employment, peer and social relationships, family, justice, and mental health and wellbeing. It can be used as a standalone tool. It takes about 5 minutes to complete and is easy to score and interpret. However, it does not seem to have been developed with young people and it is unclear what its acceptability is. The tool is publicly available within the paper published by its developer[22], but permission from the author may be required to use it in clinical settings.

The Ohio scales are a brief and practical assessment of changes in behaviour over time in young people. The Ohio scales do not appear to be validated or widely used in Australia. They cover the domains alcohol and other drug use, peers and social relationships, family, mental health and wellbeing, employment and education. They can be used as a standalone tool. They have been designed and validated for young people receiving mental health treatment, but not tested in young people in alcohol and other drug treatment. They do not seem to be developed with young people and their acceptability is unclear. Changes to the wording would likely need to be made to enhance their relevance to young people receiving alcohol and other drug treatment. For example, some questions specifically relate to the mental health services a young person received ("How satisfied are you with the mental health services you have received so far?") and would have to be changed to alcohol and other drug treatment. It seems easy to administer and score but some training might be required. The tool and extensive training resources are freely available.

The ORS and CORS are validated tools that measure the same domains but have been adjusted based on age group (for example, adjustments have been made to the way questions are asked and measured). The ORS does not appear to be validated or widely used in alcohol and other drug treatment in Australia but is used in the families and children sector. The ORS is for young people aged 13–25 years and the CORS is for children from 6–12 years. Both tools measure the young person's perspective of how they have been feeling over the past week. They broadly cover the domains peers and social relationships, mental health and wellbeing, family, education and employment, asking how the young person is feeling individually (personal wellbeing), interpersonally

(family and close relationships), socially (work, school and friendships) and overall (general sense of wellbeing). They would need to be supplemented with an alcohol and other drugs outcome tool. Both tools are quick to complete and score (5 minutes). There are self-report, parent and teacher versions available. Young people were involved in their development and acceptability is high. However, they have not been validated for young people in alcohol and other drug treatment. A licence needs to be purchased to access the surveys and it is unclear whether training is required.

The SACS is a validated tool for assessing alcohol and other drug use and related difficulties. The SACS has not been validated in an Australian context and whether it is commonly used in Australia is unknown. It has been recommended in several Australian clinical guidelines, however, such as the Dovetail Youth Alcohol and Other Drug Practice Guide on practice strategies and interventions. The SACS measures past-month frequency of use across a range of substances and problems associated with use. It has very good reliability and validity and was developed and tested in consultation with young people in alcohol and other drug treatment, who assessed it as being easy to understand and complete. It takes up to 10 minutes to complete and score. It is freely available online alongside an instructional manual and no training is required.

The SDS appears to be the most suitable outcome tool that measures alcohol and other drug use. Most tools that measure alcohol and other drug use focus on a specific substance, such as the Alcohol Use Disorders Identification Test (AUDIT), whereas the SDS can be applied to any substance. The SDS has good reliability and validity and is widely used within alcohol and other drug services in Australia. It takes less than one minute to complete and score and clinical feedback can be instantly provided. It is freely available and no training is required. It can be used in addition to other short outcome domain measures. Although it has been validated for youth aged 14–18 who use cannabis, it has not been tested for young people receiving alcohol and other drug treatment.

The Teen Star has been developed for use with young people specifically in alcohol and other drug treatment services, although it is unclear if it has been tested within this group. The Teen Star does not appear to be validated or used in Australia. It covers the domains alcohol and other drugs, peer and social relationships, mental health and wellbeing, education, justice, risk taking and physical health. Although the tool is all-encompassing, it is unclear how quickly it can be applied and scored. The Teen Star has been developed with young people and is designed to be part of ongoing process of outcome measurement and service improvement. A licence needs to be purchased and training is required (which also involves cost).

The YP-CORE is a brief, freely available measure of psychological distress in young people aged 11–16 years. It does not appear to be validated or widely used in Australia. The YP-CORE only measures mental health and wellbeing and would need to be supplemented with a measure of alcohol and other drug use and possibly another outcome tool measuring one or more domains. It has been developed to be a user-friendly measure of change for use in a variety of health services. It is easy for clinicians to administer and score (1–5 minutes to complete) and can be used for brief interventions. It has clinical cut-off points for different age ranges. The YP-CORE has been developed with young people and has high acceptability.

Outcome tools and application to different age groups

Very few publications made recommendations regarding the utility, administration and scoring of outcome tools based on age group. Only three tools (6.4%) were designed for specific age groups, and two tools (4.3%) had different scoring systems based on age.

The YP-CORE specifies different cut-off scores based on age (11–13 and 14–16) and gender.

The ORS is for use in clients aged over 13 and has a lower cut-off score for youth aged below 17. Its counterpart, the CORS, is designed for children aged up to 12. The tools are designed so they can be used interchangeably between younger and older clients based on their literacy levels and preferences, with the CORS using smiley face indicators and simpler wording.

Recommendations

Outcome domains that matter to young people

Although we identified many outcome domains, none of the publications discussed whether the domains had been identified as important by young people themselves, or if there were domains that mattered more to young people (acknowledging this would vary on an individual level). The outcome domains that young people in alcohol and other drug treatment prioritise have received limited attention and measurement approaches have been determined with minimal youth input. As a comparison, many outcome tools in the mental health space have involved input from young people and it seems the domains young people value are similar to those identified in this Evidence Check. A future research priority should be confirming what outcome domains are important to young people receiving alcohol and other drug treatment.

Aboriginal and Torres Strait Islander populations and cultural domains

Aboriginal and Torres Strait Islander peoples represent 22.9% of clients aged 10–19 receiving alcohol and other drug treatment[40], but we identified no culturally specific outcome domains or measures in the publications. Alcohol and other drug treatment services with a high number of young Aboriginal and Torres Strait Islander clients will need to consider including culturally appropriate measures.

Health and wellbeing outcomes of Aboriginal and Torres Strait Islander young people are often measured using instruments designed for non-Indigenous populations, which do not measure health and wellbeing as conceptualised in Aboriginal ways of knowing, being and doing, and are not designed and framed in a manner appropriate to Aboriginal and Torres Strait Islander young people.[41, 42]

There are some instruments that have been designed specifically for Indigenous youth population groups that can potentially be modified for Indigenous young people in alcohol and other drug treatment.[41] The Strong Souls assessment tool has been developed as measure of social and emotional wellbeing for Indigenous youth; however, it has not been validated in a clinical setting and no guidelines are available for its use or scoring.[43] Another example is the Westerman Aboriginal Symptom Checklist for Youth (WASC-Y), but it is unclear whether outcomes can be measured over time, it has not been validated for young people in alcohol and other drug treatment, and a licence needs to be purchased.[44] Future research should focus on developing new tools or testing existing tools in Aboriginal and Torres Strait Islander young people receiving alcohol and other drug treatment.

Clinically relevant tools for an alcohol and other drug treatment context

None of the identified outcome tools perfectly meet the needs of clinicians and young people in alcohol and other drug treatment. For example, a tool that covers multiple outcome domains often takes a long time to complete and often requires a licence, whereas a short outcome tool will not cover all domains and may not be validated for young people in alcohol and other drug treatment. The choice of outcome tools is also dependent on the needs of the alcohol and other drug treatment

service. For example, if mental health is a frequent co-occurring disorder within the client population of a service, it is imperative that this is measured as well.

The ASC T-ASI, Ohio scales and Teen Star were identified as appropriate tools that can be used to measure a range of relevant domains, including alcohol and other drugs, among young people receiving treatment. The ORS and CORS, SACS, SDS, YP-CORE are suitable tools that measure one or a few domains and should be used in conjunction with other tools. These tools are valid and reliable, brief, easy to administer and score, and generate clinically relevant feedback. Except for the SDS, none of these tools has been tested in the Australian context. However, most of the tools have been tested for populations in the US or UK and are therefore likely to be suitable for the Australian context if minor adaptations are made.

The Australian Treatment Outcomes Profile (ATOP) and young people

The Australian Treatment Outcomes Profile (ATOP) is a brief 22-item validated instrument that is routinely administered to clients receiving alcohol and other drugs services in NSW to measure outcomes.[45] The ATOP measures alcohol and other drug use, psychosocial functioning and general health and wellbeing over the past four weeks. Although the ATOP has been validated in a wide range of Australian populations, it has not been evaluated among young people aged under 18. As part of this Evidence Check, we considered whether the ATOP would be suitable for young people receiving alcohol and other drug treatment.

The ATOP may be enhanced in a number of ways to improve its clinical utility in young people. Section 1 of the ATOP uses a modified Timeline Followback, which provides valuable information about patterns of use. While the Timeline Followback method is widely used in young people in alcohol and other drug treatment, it has not been validated in this population. The online format of the Timeline Followback has been found to be comparable to the interviewer-administered format for young people, but the validity of the Timeline Followback itself in this population has not been established. A first step may be testing the Timeline Followback to determine its reliability and validity in young people receiving alcohol and other drug treatment or considering other validated tools to replace this section.

Section 2 of the ATOP, which covers general health and wellbeing, would require some adjustments to increase its relevance to young people. Domains such as peers and social networks and family should be considered. Any adjustments to the ATOP should be undertaken in consultation with young people and its reliability and validity tested in this population.

The ASC T-ASI, Ohio scales, SACS and Teen Star could be used for comparison purposes if a modified ATOP were to be tested in young people.

Developing outcome tools with young people

There are very few outcome tools that were developed in consultation with young people. Consulting with young people during the development of outcome tools enhances their relevance, suitability and acceptability, in turn promoting their clinical utility. As such, the development of any new outcome tools should involve consultation with young people.

Furthermore, most tools did not differ based on age group. The circumstances of a 13-year-old are likely to differ from those of an 18-year-old in domains such as accommodation and employment, and literacy and comprehension skills may also differ. In developing new outcome tools, young people

from different age groups should be involved to ensure the tool is suitable across age groups or appropriate adjustments are made based on age.

Embedding outcome measures into clinical information systems

There are many barriers to embedding a routine outcome measurement process into the clinical practice of alcohol and other drug treatment services. Barriers for staff may include not receiving training in the clinical application of outcome tools, difficulty in identifying when young people are due for follow-up, and underdeveloped feedback mechanisms for young people and clinicians.[46] However, outcome monitoring can be used as a therapeutic tool to enhance client outcomes.[32] Therefore, it is important to consider how routine outcome measurement can best be embedded into clinical data systems.

Employing validated tools that are widely used among both young people and adults in the alcohol and other drugs sector not only increases the chance of outcome data being successfully collected and applied but also makes it easier to make comparisons over time. This should be considered when selecting which outcomes tools to use.

Future research considerations

Across the Evidence Check, publications were highly diverse; outcome domains and tools were examined in different settings, populations and interventions, and across different substances. While the validity and reliability are generally reported to be good for most outcome tools, this may not be generalisable to all treatment settings, interventions, populations and substances.

Few tools have been tested in an Australian context, raising questions about whether some tools are suitable for Australian populations. Furthermore, many tools have not been tested in young people receiving alcohol and other drug treatment, but in other contexts such as mental health treatment.

Future research is required to examine how the same outcome tools perform in young people receiving alcohol and other drug treatment across diverse treatment settings, interventions and substances in Australia.

Appendices

Appendix A—Search strategy

This Evidence Check searched both peer-reviewed and grey literature for publications examining outcome domains that matter to young people with alcohol and other drug problems and/or the effectiveness of assessment measures for this cohort.

Inclusion and exclusion criteria

We included peer-reviewed studies and grey literature in this Evidence Check rapid review.

Publications were included if they were written in English and focused on young people and alcohol and other drug outcomes. Only publications from 2009 onwards were included unless there was a strong justification for including earlier publications.

Publications were excluded if they were not written in English. We included grey literature as we expected that there would be relevant clinical frameworks, guidelines and other relevant documents published about young people and alcohol and other drug outcomes. We excluded doctoral dissertations, theses and books.

Inclusion	Exclusion
Peer-reviewed publications	Non-English language
Grey literature	Does not focus on young people aged <18
Written in English	Does not focus on alcohol and other drug outcomes, outcome domains and/or outcome tools
Examines young people aged <18 *and* alcohol and other drug outcomes, outcome domains and/or outcome tools	Not undertaken in treatment setting
OECD countries only	Editorials, commentaries, doctoral dissertations, theses and books
Publications from 2009 onwards unless there is strong justification for including earlier publications	Non-human studies

	Focused on screening or diagnostic tools that do not measure change over time

Information sources

The following peer-reviewed databases were searched:

- Cochrane
- PsycINFO
- Scopus
- Medline
- CINAHL

The following grey literature databases were searched:

- SAMHSA's (US Substance Abuse and Mental Health Services Administration) National Registry of Evidence-based Programs and Practices
- headspace
- Ted Noffs Foundation
- Orygen Youth Mental Health
- Alcohol and Drug Foundation
- Google
- Google scholar

We searched reference lists from retrieved manuscripts and also consulted youth and alcohol and other drug experts to identify additional literature, clinical guidelines and frameworks (for example, the Substance Use and Young People Framework and Mission Australia's Youth Survey) that were not found through the above processes.

Key word searches

Peer-reviewed databases were searched using the below search terms. Search terms in grey literature databases were restricted because of less advanced search options.

Subject categories	Key search terms
1. Child and adolescent [Title]	Adolescen* OR youth* OR young OR child* OR teenage* OR tween
2. Alcohol and other drugs* [Title/Abstract]	Substance* OR alcohol OR petrol OR cannabis OR kava OR methamphetamine OR MDMA OR inhalant OR marijuana OR amphetamine OR Polydrug OR Heroin OR Opioids OR Opiates OR Methadone OR Stimulants OR Hallucinogens OR polysubstance OR Cocaine OR Ice OR "illicit drug" OR benzodiazepine OR Ecstasy OR "Injecting drug*" OR "drug dependenc*" OR "alcohol dependenc*" OR "substance dependenc*" OR "alcohol addict*" OR "drug addict*" OR "substance addict*" OR "drug abuse" OR "alcohol abuse" OR "substance abuse" OR "substance misuse" OR

Subject categories	Key search terms
	“substance use” OR “alcohol use” OR “alcohol misuse” OR “drug misuse” OR “drug use”
3. Mental health and other outcome domains [Title/Abstract]	“Mental health” OR “emotional health” OR psychosocial OR “mental wellbeing” OR wellbeing OR “mental disorder” OR resilience OR family OR “social connections” OR “therapeutic alliance” OR mentor* OR “support network” OR “physical health” OR recidivism OR violen* OR “risk behaviour*” OR “quality of life” OR housing OR employment OR education OR school OR “peer relationships” OR “suicide” OR “self-harm” OR carer OR friend OR “family function*” OR “impact on family” OR “activity disruption” OR “physical well*” or “physical harms” OR “adverse event” OR “global assessment of function*” OR “social function*” OR “occupational function*” OR “child health utility” OR “patient health” OR “health utili*” OR “hospital presentation” OR “health encounter” OR “emergency services” OR sleep OR “domestic violence” OR “assault” OR “family domestic violence” OR “adverse childhood event” OR “risk of significant harm” OR strength* OR difficult*
4. Screening and assessment tools** [Title]	Tool* OR Measure* OR Scale* OR screening OR assess* OR “treatment outcome” OR “client outcome” OR instrument OR PROM OR “patient reported measure” OR “routine outcome assessment” OR “self-reported outcome” OR “patient outcome assessment” OR “outcome monitoring” OR co-design OR co-creat* OR “progress monitoring” OR “routine monitoring” OR “routine outcome measurement” OR “outcome indicator” OR “self report*” OR “self report* instrument” OR “progress assess*” OR “baseline measure” OR “discharge measure*”

* The term ‘drug’ has purposely been removed because a high number of medical articles turn up (for example, cancer treatment-related studies).
** The terms ‘survey’ and ‘questionnaire’ have been removed as a high number of studies came up conducting survey studies (for example, a national survey study of substance use).

Study selection

The Evidence Check team searched databases following the search strategy outlined above. Titles and abstracts were uploaded in EndNote and were screened for eligibility using the above criteria. Eligible records were selected and full-text publications were screened.

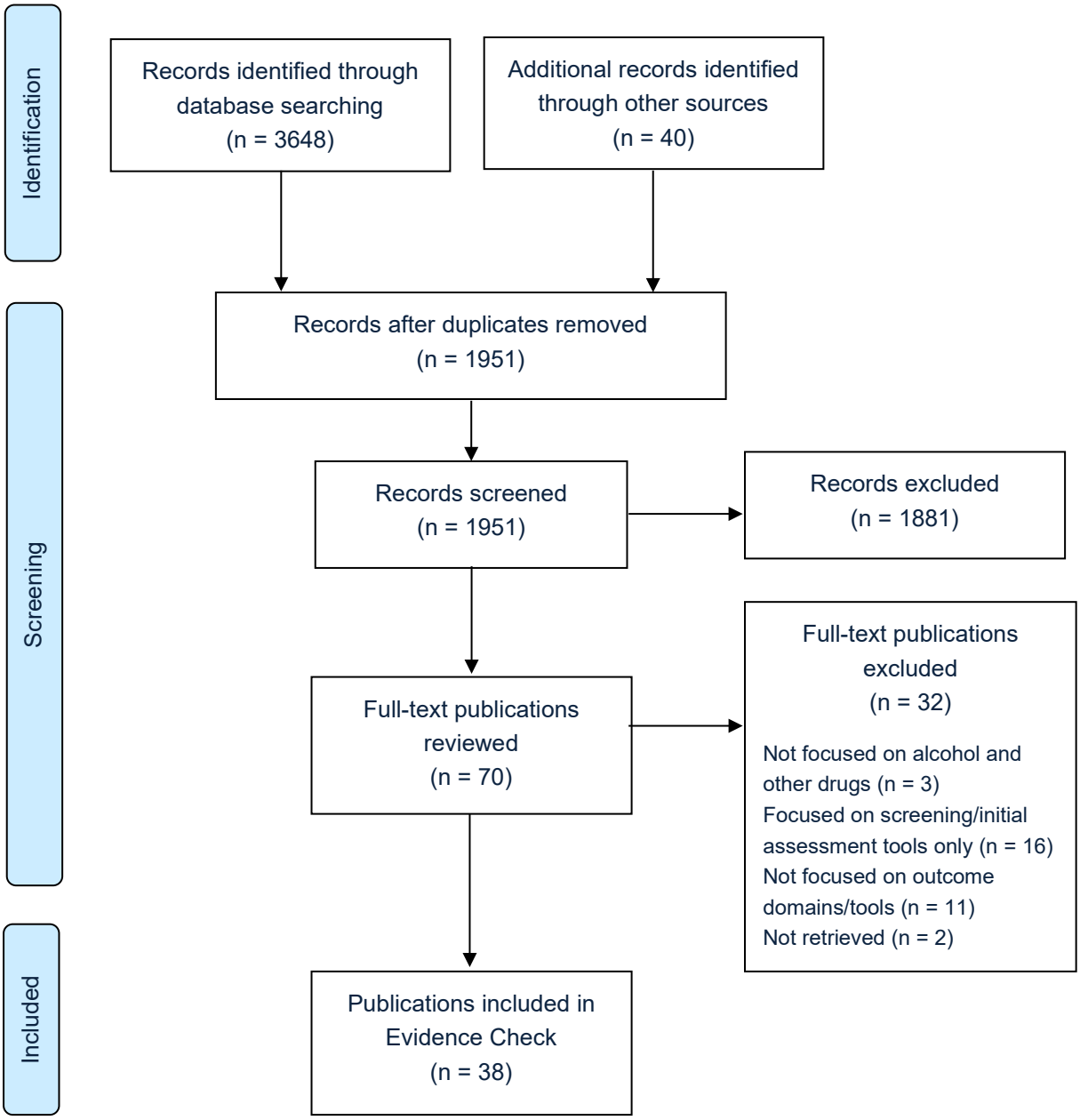
Data extraction

Data were extracted regarding the aims, participants, design, procedures and outcomes of the eligible publications and summarised in an outcome table that was developed with the approval of the commissioning agency.

Quality assessment

We assessed the quality of evidence using the NHMRC body of evidence matrix. The quality of the evidence was assessed on a group level for the included peer-reviewed studies. The matrix has five components: *level of evidence, consistency, clinical impact, generalisability* and *applicability* of the body of evidence. We did not assess the methodological quality of each individual study in detail. See Appendix D for more information.

Appendix B—PRISMA diagram



Appendix C—Data extraction tables

Table C1—All included peer-reviewed studies, outlining their objective, sample size and setting, intervention/methods and main findings

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
Bashford 2020, New Zealand	Describe the empirical construction and initial validation of the Cannabis Use Problems Identification Test (CUPIT), a brief self-report screening instrument to detect current and potentially problematic cannabis use.	138 adolescents (aged 13–18) and 74 adults recruited from drug treatment clinics, adult justice, juvenile justice and alternative education programs, secondary schools, tertiary institutions and the general population.	Pre-post study with CUPIT administered at baseline and 12 months. Test-retest reliability, concurrent validity, internal consistency, factor structure and discriminant validity were evaluated. Level IV study.	The primary outcome domain was cannabis use problems, including risky use, dependence, and health and social problems. The CUPIT was reported to be a reliable and valid tool that may have utility as a "pre-post measure in clinical outcomes assessment".
Becker-Haimes 2020, US	Provide an overview of currently available brief, free and accessible measures for use in youth mental health.	95 measures were included in the synthesis.	A systematic review of (and comprehensive evaluation of the psychometric properties of) measures used in youth mental health. Measures had to be brief, free, accessible and have data available for their psychometric properties for young people to be included.	Of included measures that can measure change over time, the Young Person's Clinical Outcomes in Routine Evaluation (YP-CORE); Pediatric Symptom Checklist; Strengths and Difficulties Questionnaire (SDQ); Ohio Youth Problems, Functioning and Satisfaction scales; and Hooked on Nicotine Checklist were evaluated to have excellent psychometric properties.

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
			Psychometric properties were independently reviewed and classified as 'excellent', 'good' or 'adequate'. Level I study (but the systematic review is of level III and IV studies, not level II studies).	
Best 2017, Australia	Examine the impact of social networks on alcohol and other drug use during and after specialist alcohol and other drug treatment for young people.	79 young people aged 16–21 from residential withdrawal, 19 from residential rehabilitation, and 52 from community services, recruited to the Youth Cohort study. 112 young people who were engaged in specialist alcohol and other drug treatment and retained from baseline to six-month follow-up were the focus of the paper.	Pre-post study with outcome measures administered at baseline and six-month follow-up. Change in outcomes over time and associations between measures were assessed. Outcome tools used were the WHO-ASSIST V3.0, K10, Opiate Treatment Index social functioning and criminality scales, a life satisfaction ruler, and individual items pertaining to quantity and quality of social relationships. Level IV study.	Outcome domains included friends, mental health, alcohol and other drug use, criminality and life satisfaction, with a focus on the quantity and quality of social relations. Maintaining social network size and reducing the proportion of drug users in networks is associated with improved treatment outcomes. A reduction in the proportion of substance users in social networks is beneficial for substance use and offending, but an adequately sized social network must be maintained.

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
Christie 2007, New Zealand	Describe the development of the Substance and Choices Scale (SACS) and evaluate its psychometric properties.	120 young people aged 13–18 attending outpatient alcohol and other drug treatment and 531 attending secondary schools.	SACS pilot tested in a subsample of 61 participants, then administered to the full sample after changes were made. Test-retest reliability was undertaken in a subsample of 78 after one week and 82 after 3 weeks. Tested again at four or more weeks in a subsample of 46 participants. Internal consistency, test-retest reliability, factor structure, concurrent validity, predictive validity, sensitivity to change and acceptability were evaluated. Level III study.	The main outcome domain was alcohol and other drug use and related difficulties. The SACS has very good reliability and validity, is sensitive to change and is highly acceptable among young people in alcohol and other drug treatment.
Chung 2011, US	Examine the concurrent and predictive validity of four brief measures of readiness to change tobacco use, for use with adolescents in clinical practice and a single-item measure of difficulty to abstain.	154 young people aged 14–18 receiving group-based intensive outpatient treatment across seven community-based treatment sites.	Pre-post study with outcome tools administered at baseline, six- and 12-month follow-up. Concurrent validity, predictive validity and factor structure were evaluated. Level IV study.	The main outcome domain was readiness to change. The Readiness Ruler and a single item on motivation to abstain had the highest clinical utility as brief measures of readiness to change and perceived difficulty to abstain to

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
				support young people wanting to cease their tobacco use. Thoughts About Abstinence (TAA) was less useful to administer during active treatment. Single item on confidence to abstain was also good predictor of tobacco use and abstinence but only at six months, not 12 months.
Ciesla 2011, US	Use item response theory to evaluate the validity of a scale designed to measure the peer relations of a young person treated for substance use disorder.	509 young people aged 12–21 years discharged from a primary alcohol and other drug treatment facility.	The data are from research conducted between six- and 12-months post discharge via a 230-item questionnaire that included the 14-item peer relations scale. Item response theory was used to evaluate the scale. Level IV study.	Peer relations were the main outcome domain. The peer relations scale has good reliability and validity and has potential to be used as a standard metric of peer relations for young people treated for substance use.
Cleverley 2018, US	Evaluate the psychometric properties of the Columbia Impairment Scale-Youth (CIS-Y) in young people in outpatient alcohol and other drug treatment.	134 young people aged 15–24 accessing an outpatient treatment program for alcohol and other drug concerns.	All young people entering the program complete the CIS-Y as part of the initial comprehensive assessment. The study analyses data from these assessments to evaluate factor structure and discriminative validity.	The main domain was functional impairment. Preliminary evidence shows the CIS-Y has good reliability and sound validity. The authors highlighted that some of the items may not be fully reflective of some aspects of the developmental stage of emerging adulthood.

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
			Level IV study.	
Cortés-Tomás 2017, Spain	Analyses the appropriateness of a modified Alcohol Use Disorders Identification Test (AUDIT) with revised items to more accurately reflect binge drinking.	906 young people aged 15–17 attending high school.	Participants completed a self-report diary and the AUDIT. AUDIT items 2 and 3 were then modified based on the consensual definition of binge drinking. Comparisons were made between the original AUDIT, AUDIT-3, AUDIT-C, and modified versions. Cluster analyses, ANOVA, and ROC curve analyses were conducted to assess the effectiveness of the various AUDIT versions in identifying binge drinkers. Level IV study.	The main domain was alcohol consumption. The modified AUDIT was able to more accurately detect binge drinking.
Czobor 2011, Hungary and the Netherlands	Examine the psychometric properties and factorial structure of the European Adolescent Assessment Dialogue (EuroADAD) across various settings in Hungarian and Dutch adolescents who had developed, or were at high	295 young people aged 12–20 years from a juvenile residential facility, 278 from an outpatient psychiatry facility, 51 from a residential institution for young people with severe behavioural problems, and 59	A comparative study with control group. In a subsample a second interview was conducted for test-retest reliability. To evaluate interrater agreement, in a second subset of subjects, interviews were administered by two	Outcome domains identified include physical health, school, social and family relationships, psychological wellbeing, legal issues, and alcohol and other drug use. EuroADAD has good measurement properties and clarity with which it can be administered in practice.

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
	risk of developing, alcohol and other drugs use and psychosocial adaptation problems.	young people formed the control group.	interviewers in the same session. In a third subset of subjects, additional psychometric instruments were administered for the evaluation of the convergent/discriminant validity. Level III study.	Responsiveness to change is not tested but items relate to past 30 days (except criminal behaviour, past 3 months) so it may have utility as an outcoming measuring tool.
Edelen 2015, US	Develop and evaluate the Dimensions of Change in TC Treatment Instrument-Adolescent (DCI-A) to measure adolescent therapeutic community treatment process.	442 young people aged 13–21 in one of seven residential therapeutic community treatment programs.	Exploratory factor analysis was undertaken with data from the first sample (276 young people), and confirmatory factor analysis was undertaken with data from the second sample (166 young people). Data from the combined sample was used to evaluate descriptive information and association with validity measures. Level IV study.	The main outcome domain is the treatment process, described as treatment motivation, problem recognition, family relations, personal development and social network. Preliminary evidence shows the DCI-A has good to excellent reliability and validity. The authors state that it may be helpful to inform clinicians about the progress of individual clients but should not be the sole basis for decision making regarding treatment courses until there is more evidence for validity.
Gonzalez 2015, US	Explore factor structure and psychometric utility of the Recovery Assessment Scale (RAS) for assessing recovery	80 young people (mean age: 20.5 years) using alcohol and other drugs participating in a	The aftercare program consisted of a randomised, controlled pilot trial investigating a mobile-based	Recovery was the main outcome domain, including personal determination, skills for recovery, self-control in recovery and social

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
	among young people using alcohol and other drugs.	recovery support aftercare pilot program.	texting aftercare intervention compared with aftercare as usual standard practice for youth transitioning out of alcohol and other drug treatment. Reliability and factor structure were evaluated. Level II study.	support. Language of RAS was adapted for alcohol and other drugs use. The RAS has adequate psychometric properties for measuring recovery in young people using alcohol and other drugs.
Grant 2020, US	Examine stakeholder perspectives on the most important individual needs and treatment outcomes for alcohol and other drug treatment for young people.	194 stakeholders, including 81 providers of alcohol and other drug treatment for young people, 54 policy makers overseeing clinical program planning, 32 researchers of alcohol and other drug treatment for young people, and 27 parents of young people who have received alcohol and other drug treatment.	Modified Delphi study. Participants rated 48 individual needs and 10 treatment outcomes on a scale of one (lower importance) to nine (higher importance). Participants then received graphed results and the group's consensus on the importance of each item, and re-rated each item. Level IV study.	Outcome domains included reduction in substance use, reduction in substance use disorder symptoms, improved mental health, completion of treatment plan, engagement in school/work, improved relationships in the home and family, stable housing, reduced engagement in illegal activities, abstinence from substance use and improved physical health. Of these, reduction in substance use, reduction in substance use disorder symptoms, improved mental health, completion of treatment plan, engagement in school/work, improved relationships in the home and family, and stable housing were reported to be highly important across all stakeholder groups.

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
Hareskov Jensen 2023, Denmark	Evaluate the validity of an online self-administered Timeline Followback (TLFB) for alcohol use in young people against the TLFB interview format and single-item questions on drinking behaviours.	30 young people aged 16–18 years who have engaged in past month alcohol use.	All participants completed the online TLFB, single-item questions and TLFB interview. Participants were randomly assigned to complete the online TLFB or single-item questions first. All participants then completed the TLFB interview. Correlations and differences between the modes of assessment were examined to test the psychometric properties of the online TLFB. Level IV study.	The outcome domain measured is alcohol consumption, including frequency and quantity. Correlations between the different modes of administration were positive and statistically significant, supporting that an online TLFB is comparable to the interview administered format. Participants reported drinking significantly more drinks on the online TLFB compared with the interview format. Authors suggest this difference may be due to the online format reducing social desirability bias and underreporting.
Knapp 2018, US	Assess the psychometric characteristics of the Marijuana Adolescent Problems Inventory (MAPI) with cannabis-using adolescents.	727 young people aged 12–19 years who reported cannabis use in past 30 days or had a cannabis positive urinalysis result at baseline assessment.	Data were combined from five randomised trials evaluating interventions for adolescent substance use across outpatient and school settings. Three outpatient clinical trials and two school-based trials. The efficacy of several interventions was tested using the MAPI to measure outcomes. Factor structure,	Outcome domain measured is the severity of problems related to cannabis use. The MAPI is a reliable and valid measure of problems associated with cannabis use among adolescents and can be used to measure change over time.

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
			internal consistency, internal reliability and external validity were evaluated. Level II study.	
Knight 2014, US	Establish the psychometric properties of the Texas Christian University Adolescent Screening and Assessment Package (TCU-ASAP) for young people in alcohol and other treatment.	1189 young people aged 13–19 who were admitted to residential alcohol and other drug treatment at one of eight programs that use the TCU-ASAP.	Data collected as part of a larger multisite research project were analysed. The TCU-ASAP was administered at intake and again at 30–60 days. Internal consistency and internal validity were evaluated. Level IV study.	Outcome domains include psychological functioning; social functioning; family, friends, and self; HIV risk; motivation; engagement; criminal thinking; drug use thinking; and general thinking. The TCU-ASAP scales have generally satisfactory validity and reliability.
Lord 2011, US	Construct and validate the Comprehensive Health Assessment Tool for Teens (CHAT), a computer-delivered multimedia alcohol and other drugs self-assessment for young people.	The first study included 142 young people aged 13–18 from five treatment settings and 50 from two high schools. The second study included 260 young people from treatment settings and 94 from schools.	In the first study, the CHAT framework was developed in consultation with young people and internal consistency, test-retest reliability, construct validity, and convergent/ discriminant validity were evaluated. In the second study, multimedia elements were incorporated into the CHAT and items were adjusted, and it	Outcome domains include family relationships, peer relationships, psychological health, tobacco use, drug use and alcohol use. The CHAT was found to have adequate to excellent reliability, varying across domains.

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
			was evaluated again in a second sample. Level III study.	
Maisto 2011, US	Compare the concurrent and predictive validity of the Readiness Ruler, the SOCRATES, and the staging algorithm in a clinical sample of adolescents using cannabis.	174 young people aged 14–18 years using cannabis at initial assessment attending intensive outpatient treatment (community setting).	Pre-post study with outcomes tools used at administration, six months and 12 months. Concurrent validity, predictive validity and factor structure were evaluated. Level IV study.	Readiness to change was the main outcome domain. Good concurrent and predictive validity for the Readiness Ruler, staging algorithm and Taking Steps, but poor evidence for validity of Recognition. Readiness Ruler has most clinical utility when brevity and ease of administration are considered.
Reckers-Droog 2020, Netherlands	Present the Abbreviated Self Completion Teen-Addiction Severity Index (ASC T-ASI) and examine its validity in young people.	167 young people aged 12–18 in a mental health facility.	Respondents completed the ASC T-ASI at baseline and a subsample of 32 completed a test-retest questionnaire at two weeks. Feasibility, test-retest reliability and convergent validity were evaluated. Level IV study.	Outcome domains include alcohol and other drug use, school, work, family, social relationships, justice and mental health. The ASC T-ASI was found to be quickly completed, easy to complete and very comprehensible. It has adequate test-retest reliability and moderate convergent validity.
Russell 2018, Canada	Examine the effectiveness of progress monitoring in an alcohol and other drug	70 young people aged 12–17 in a residential facility.	The Personal Involvement with Chemicals scale (PICS) and Substance Use Frequency	Outcome domains include alcohol and other drug use, client satisfaction, mental health, social functioning and mindfulness.

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
	treatment program for young people.		Scale (SUFS) were administered at admission. A program outcome questionnaire was administered weekly. The Youth-Outcome Questionnaire (Y-OQ SR 2.0) was administered at admission, discharge and weekly. The Child and Adolescent Mindfulness Measure (CAMM) was administered at admission and discharge. Changes in outcomes scores and relationships between variables were evaluated. Level IV study.	The study found progress monitoring can be integrated into the treatment process and yield outcomes that are useful for programs and stakeholders.
Santos 2018, Brazil	Provide an overview of validated instruments related to alcohol and other drug use among young people.	17 articles were included for review.	Integrated review identifying validated instruments, and critically analysing the psychometric properties of instruments. Level I study (but the systematic review is of level III and IV studies, not level II studies)	Outcome domains for the below tools include receptivity to change, treatment participation, alcohol and other drug use, school/employment, family functioning, peer relations, legal status, mental health, treatment motivation, personal development and problem recognition. Instruments related to the treatment of drug use include the Adolescent Substance

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
				Treatment Engagement Questionnaire—Teen (ASTEQ-Teen), ASTEQ—Counsellor, Teen Addiction Severity Index (T-ASI), and Dimensions of Change Instrument—Adolescent Short Form (DCI-A-SF).
Schawo 2017, US	Identify outcome measures that capture the broad effects of systemic family interventions in young people with alcohol and other drugs issues and delinquent behaviour, and are suitable for integration in a health-economic framework.	80 articles were included for review.	Systematic review identifying instruments, ranking their comprehensiveness and evaluating their brevity, accessibility and psychometric properties. Level I study (but the systematic review is of level III and IV studies, not level II studies).	Outcome domains include alcohol and other drug use, physical health, mental health, family relations, peer relations, education, social skills, school, work, legal status, functioning and risk behaviours. The Teen Addiction Severity Index (T-ASI) and Adolescent Assessment Dialogue (EuroADAD) were identified as promising instruments that may be suitable for economic evaluations of systemic family interventions.
Stucky 2014a, US	Derive and validate unidimensional Dimensions of Change in Therapeutic Communities Treatment Instrument—Adolescent short form (DCI-A-SF) that would represent content from the original DCI-A factors.	442 young people aged 13–21 in residential treatment at one of seven therapeutic community programs.	Participants completed the DCI-A. The factor structure was analysed to develop the DCI-A-SF. The validity and reliability of the DCI-A-SF was evaluated. Level IV study.	The outcome domain measured by the DCI-A-SF is treatment process, covering treatment motivation, problem recognition, family relations, personal development and social network. Preliminary evidence shows the DCI-A-SF has good to excellent reliability and validity.

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
Stucky 2014b, US	Evaluate the dimensional structure and psychometric properties of the scales that make up the Global Appraisal of Individual Needs General Individual Severity Scale (GAIN-GISS) and GAIN Short Screener (GAIN-SS), and the total disorder screener (TDScr, which is a combined GAIN-SS).	6909 young people aged 11–18 years entering outpatient alcohol and other drug treatment.	The GAIN was collected at baseline (intake). Separate analyses were conducted for each of the four GAIN-GISS scales, the short screener versions and the combined TDScr. Factor structure, score precision and reliability were evaluated. Level IV study.	Outcome domains identified alcohol and other drug problems, problem behaviours, mental health issues, criminal behaviour and conflict. The full GAIN scales are more reliable and valid than their GAIN-SS counterparts, but both have good psychometric properties. The TDScr is not recommended.
Tanner-Smith 2016, various countries	Examine whether the effects of brief alcohol interventions for young people varied according to the measurement characteristics of the alcohol outcomes used to capture intervention effects.	145 young people aged 11–18 who received brief alcohol interventions.	Meta-analysis of 190 studies with control groups, of which 26 had adolescent samples. Effect sizes were calculated, and outcome analyses were undertaken with moderator and control variables. Level I study.	The main outcome domain was alcohol consumption. Outcome tools used in adolescent studies include the Alcohol Use Disorders Identification Test (AUDIT), Daily Drinking Questionnaire (DDQ), and Timeline Followback (TLFB). Effects of interventions were consistent across alcohol outcomes, although a larger effect size was reported for abstinence measures. Effects were also consistent across assessment instruments, with a larger effect size reported for the TLFB compared with DDQ.

First author, year, country	Objective	Sample size, setting	Intervention, methods, level of evidence*	Findings
Twigg 2016, UK	Test the acceptability and reliability of the Young Person's Clinical Outcomes in Routine Evaluation (YP-CORE).	1269 young people aged 11–16 receiving counselling services (clinical sample) and 380 young people from schools (nonclinical sample).	The clinical sample completed the YP-CORE at their first assessment and last counselling session. The nonclinical sample completed the YP-CORE once, and a subsample completed it one week after. Acceptability, internal consistency, test-retest reliability, effect sizes, cut-off values and sensitivity to change were evaluated. Level III study.	The main outcome domain was psychological distress, including wellbeing, symptoms/problems, functioning, and risk. The YP-CORE was found to have high acceptability and good reliability and to be sensitive to change. Different cut-off scores were identified based on age and gender.
Yao 2012, US	Examine the underlying factor structure of a scale designed to measure peer relations of adolescents treated for alcohol and other drugs use.	509 young people aged 12–21 years discharged from a primary alcohol and other drug treatment facility.	The data are from research conducted between six- and 12-months post discharge via a 230-item questionnaire that included the 14-item peer relations scale. Factor structure was evaluated. Level IV study.	Peer relationships was the main outcome domain. The scale is useful as a standard measure because it identifies measurable dimensions of peer relations that influence post-treatment recovery.

**Level of evidence* relates to the quality assessment. Please see Appendix D for more information.

Table C2—An overview and relevant findings of all included grey literature sources

First author, year, country	Overview	Findings
Bertolino 2017, US	Discusses the utility of feedback-informed treatment, including the Outcome Rating Scale (ORS) and Session Rating Scale (SRS) in a mental health service for young people and families.	Highlights the utility of ongoing client feedback to monitor therapy outcomes and guide decisions. Recommends the ORS and SRS used on a weekly or more basis to monitor the effectiveness of treatment. Youth indicated a preference for computer versions.
Bruun 2012, Australia	Resource for strengthening therapeutic practice frameworks in youth alcohol and other drug services.	Key domains identified include health and wellbeing, quality of life, alcohol and other drug use, crime, capacity to respond to crisis, stability, relationships, activities (school, work, etc), self-efficacy and control, housing, education, sexual activity, coping strategies, strength building, and readiness to change and motivation.
Crane 2012, Australia	Framework for youth alcohol and other drug practice (Queensland, Australia).	Key domains identified include minimising harm, improving relationships, stable accommodation, ceasing or reducing use, reducing vulnerability, improving wellbeing and resilience, and increasing choices and options. Focus on outcomes should underpin clinical processes. Practice should be guided by focus on the outcomes that a young person seeks. Intervention does not need to be alcohol and other drugs focused, but focused on outcomes that are meaningful to the young person.
Deady 2009, Australia	A comprehensive overview of screening, assessment and outcome measures used in alcohol and other drug treatment settings. The review focused on domestic and international tools and measures related to alcohol and other drugs, mental health, and general health and social functioning. Psychometric properties, availability,	Outcome measures that were reported to be used or validated in young people include: • Addiction Severity Index (ASI) • Alcohol Use Disorders Identification Test (AUDIT) • Children's Global Assessment Scale (CGAS) • Depression Anxiety Stress Scales (DASS-21, DASS-42) • General Health Questionnaire (GHQ) and short forms (GHQ-12 and GHQ-28) • Global Appraisal of Individual Needs (GAIN) scales

	applicability and accessibility of each tool was reported.	• Health of the Nations Outcome Scale for Children and Adolescents (HoNOSCA) • Kessler Psychological Distress Scale (K10) and short version (K6) • Maudsley Addiction Profile (MAP) • Opiate Treatment Index (OPI) • Recovery Assessment Scale (RAS) • Severity of Dependence Scale (SDS) • Short-Form Health Survey (SF-36) and short version (SF-12) • Strengths & Difficulties Questionnaire (SDQ) • Symptom Checklist-90-Revised (SCL-90-R) and shorter versions Brief Symptom Inventory (BSI) and Symptom Assessment (SA-45) • Timeline Followback Method (TLFB) • World Health Organization Quality of Life—BREF (WHOQoL-BREF).
Gonzales 2013, US	To help clinicians develop a better understanding of alcohol and other drug treatment challenges in adolescents and treatment responses.	Outcome domains identified include alcohol and other drug use, criminal activity, health functioning, employment and education, housing stability and social support.
Good 2018, UK	Provides a brief overview of the psychometric properties of the Teen Star. The results of a study evaluating factor structure, internal consistency, item redundancy and responsiveness to change are reported.	The outcome domains measured are not reported. The Teen Star is reported to have good reliability, construct validity, content validity and responsiveness to change.
headspace 2013, Australia	Provides an instructional guide for the headspace Psychosocial Assessment for Young People.	The headspace Psychosocial Interview is a comprehensive initial assessment. Domains include home and environment, education and employment, activities, alcohol and other drugs, relationships and sexuality, conduct difficulties and risk taking, anxiety, eating, depression and suicide, and psychosis and mania.

Low 2012, UK	Provides an overview of the Outcome Rating Scale (ORS) and Session Rating Scale (SRS) and describe how they can be used by clinicians.	Outcome domains measured by the ORS are personal/symptom distress, interpersonal wellbeing, social role and overall wellbeing. It is designed to provide real-time feedback about client functioning progress. The SRS measures the quality of the therapeutic alliance. The scales have good internal consistency, test-retest reliability and concurrent validity. They also have high utilisation rates.
Maram 2012, US	Provides an overview of screening and assessment procedures and tools for young people with alcohol and other drug issues. The chapter focuses on strategies, approaches and special considerations; indicators for assessment; screening and assessment; psychosocial assessment process; screening and assessment instruments; and substance abuse assessment instruments.	Outcome domains for the tools below include alcohol and other drug consumption patterns, psychological symptoms, physical symptoms, social symptoms, legal status, family problems, school/employment, peer relations, and social activities. Psychosocial assessment tools identified include the Adolescent Alcohol Involvement Scales (AAIS), Adolescent Drug Involvement Scale (ADIS), Adolescent Drinking Index (ADI), Personal Experience Screening Questionnaire (PESQ), Adolescent Drug Abuse Diagnosis (ADAD), Teen Addiction Severity Index (T-ASI) and Personal Experience Inventory (PEI). Most of these are screening instruments.
NSW Ministry of Health 2014, Australia	Substance use and young people framework to assist drug and alcohol services for young people in identifying roles and responsibilities and developing clinical governance structures, policies and workforce development. Provides information about young people and the policy context, statistics regarding alcohol and other drug use and young people, risk and protective factors, how organisations can provide effective services, and responding to young people who enter services.	Important domains identified include coping skills, self-efficacy, risk perception, family support/conflict, peer relations, education, mental health, housing, interpersonal skills, life satisfaction, problem solving and risk taking.

Pender 2023, US	Provides an overview of resources for assessment and treatment of alcohol and other drugs issues in young people. Provides information about diagnostic criteria, prevalence, comorbid disorders, prognosis/developmental course, evidence-based assessment and evidence-based treatment.	Outcome domains identified include alcohol and other drug use, physical health, mental health, peer relations, family relations, education, social skills, recreational activities, criminal behaviour, legal status, behaviour complexity and readiness to change. Assessment tools identified that can measure change over time include the Teen Addiction Severity Index (T-ASI), Timeline Followback (TLFB), Rutgers Alcohol Problems Index and Marijuana Adolescent Problem Inventory (RAPI/MAPI), Drinking Motives Questionnaire (DMQ), Comprehensive Marijuana Motives Questionnaire (CMMQ), Contemplation Ladder and Readiness Ruler.
Simon 2020, UK	Discuss measurement-based care in alcohol and other drug use for young people, including validated measures. The chapter covers epidemiology; risk factors; comorbidity; measurement-based care; and screening, comprehensive assessment and progress monitoring tools.	Outcome domains include alcohol and other drug use, school status, employment, family relations, social relations, legal status, mental health, stressful life events, health and sexual behaviour. Selected progress monitoring tools include the Timeline Followback (TLFB), Teen Addiction Severity Index (T-ASI) and Comprehensive Addiction Severity Index (CASI).

Appendix D—Quality assessment

We conducted an assessment of the quality of evidence using the NHMRC matrix (see Tables D1 and D2). The quality assessment was undertaken for the 26 included peer-reviewed studies and not the 12 grey literature sources.

Rather than assessing each individual study, the quality assessment was undertaken on a group level to evaluate the quality of the overall body of evidence. Each component of the evidence matrix in Table D1 is ranked based on the entire body of evidence. For example, the *consistency* component assesses whether the findings are consistent across studies. The methodological quality of each individual study was not assessed in detail, which limits the full assessment of the evidence base.

For the *level of evidence* component, the body of evidence is poor to satisfactory. The majority of included studies are Level IV (see Table D2), with some Level III studies and very few Level II and Level I studies. The *consistency* is satisfactory to good; most studies evaluated the psychometric properties of an outcome tool and almost all studies found the outcome tool in question to have good reliability and validity. The *clinical impact* is good as the body of evidence provides information highly relevant to the research question and can be drawn on to guide clinical practice with minimal to no risks.

The *generalisability* of the body of evidence is satisfactory to good; most studies were undertaken using a sample of young people in alcohol and other drug treatment and all studies were focused on young people. There was, however, a wide variability in the treatment type, setting, and substance used. Of the studies that did not involve samples of young people in alcohol and other drug treatment, the focus of the study was on the use of alcohol and other drugs in all but two studies, which focused on mental health. All studies except for one involved a sample that either included young people aged 12–18 or partially included young people aged 12–18 (such as 14–18 or 11–16), with the remaining study focusing on stakeholders.

The *applicability* of the body of evidence is good. While only one (3.8%) study was conducted in Australia and most were conducted in the US, the findings are likely to be generally applicable to the Australian context given the similarities between the US and Australia. Some outcome tools may require minor adaptation to suit the Australian context, such as wording adaptations. The limited number of peer-reviewed studies based in Australia is supplemented by the five grey literature sources from Australia.

More research is required to identify which outcome domains matter most to young people in alcohol and other drug treatment and which tools are most appropriate.

Table D1—NHMRC summary of the evidence base

Component	Excellent (A)	Good (B)	Satisfactory (C)	Poor (D)
Level of evidence (see Table D2 below)	Several level I or II studies with low risk of bias	One or two level II studies with low risk of bias or a systematic review or multiple level III studies with low risk of bias	Level III studies with low risk of bias, or level I or II studies with moderate risk of bias	Level IV studies, or level I to III studies with high risk of bias
Consistency	All studies consistent	Most studies consistent and inconsistency may be explained	Some inconsistency reflecting genuine uncertainty about clinical question	Evidence is inconsistent
Clinical impact	Very large	Substantial	Moderate	Slight or restricted
Generalisability	Population(s) studied in the body of evidence are similar to the target population for the guideline	Population(s) studied in the body of the evidence are similar to the target population for the guideline	Population(s) studied in body of evidence differ from target population for guideline but it is clinically sensible to apply this evidence to target population	Population(s) studied in body of evidence differ from target population and hard to judge whether it is sensible to generalise to target population
Applicability	Directly applicable to Australian healthcare context	Applicable to Australian healthcare context with few caveats	Probably applicable to Australian healthcare context with some caveats	Not applicable to Australian healthcare context

* Green highlights indicate findings of the Evidence Check rapid review.

Table D2—NHMRC level of evidence

Level of evidence	Study design
I	A systematic review of level II studies
II	A randomised controlled trial
III-1	A pseudo-randomised controlled trial (i.e. alternate allocation or some other method)
III-2	A comparative study with concurrent controls (i.e. non-randomised experimental trials, cohort studies, case-control studies, interrupted time series studies with a control group)
III-3	A comparative study without concurrent controls (i.e. historical control study, two or more single-arm studies, interrupted time series studies without a parallel control group)
IV	Case series with either post-test or pre-test/post-test outcomes

Appendix E—Overview of outcome tools

Table E1—Overview of outcome tools validated in young people in alcohol and other drug treatment

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
Adolescent Drug Abuse Diagnosis (ADAD)	Medical status Alcohol and other drug use Legal status Family background/ problems School/employment Social activities Peer relations Psychological status.	Tested in young people in alcohol and other drug treatment. Good reliability and validity; however, this data is from 1989.	150 items, scored on a 10-point rating scale. Structured interview.	Tested in the US.	Developed with young people.	Scoring and interpretation time is unclear. Using the items relating to a 30-day period may generate clinically relevant feedback.	Items relating to a 30-day period are used for outcome monitoring. Not accessible via public domain.
Columbia Impairment Scale-Youth Version (CIS-Y)	Functional impairment, including: Interpersonal relations	Tested in young people aged 15–24 in alcohol and other drug treatment.	Brief and easy to administer. 13 items, rated on a scale from 0 (no problem)	Tested in the US. Items appear to be applicable to	Not developed with young people. Acceptability unsure.	Yes	No training required. Freely available online here.

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
	Psychopathology School/work Leisure.	Preliminary evidence shows good reliability but suboptimal validity.	to 4 (a very big problem). Cut-off score of >15.	the Australian context.			
Comprehensive Addiction Severity Index for Adolescents (CASI-A)	Education Alcohol and drug use severity Free time Peer Family Legal Psychiatric.	Tested in young people aged 12–18 in alcohol and other drug treatment. Mixed preliminary evidence for reliability (good internal consistency for use severity, drug and alcohol consequences subscales, but poor for remaining subscales). Mixed preliminary evidence for validity.	45–90 minutes to complete with 15 minutes interpretation time. Scores range from 0–4 depending on when the problem occurred. Semi-structured interview.	Tested in the US.	Developed in consultation with young people with alcohol and other drug problems. High acceptability.	Unsure (15 minutes interpretation time)	An instructional manual accompanies the CASI-A. Training not required. Full measure and manual could not be sourced.

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
Comprehensive Health Assessment Tool for Teens (CHAT)	Tobacco use Alcohol use Drug use Family relationships Peer relationships Psychological health.	Tested in young people aged 13–18 in alcohol and other drug treatment. Adequate to excellent reliability and validity.	45 minutes to complete. 63 items. Computer-delivered, multimedia self-report assessment. Cut-off scores: <48 = within normal range, 48–49 = possible risk, 50–59 = slight problem, 60–69 = moderate problem, 70–79 = considerable problem, >79=extreme problem.	Tested in the US.	Developed in consultation with young people. High acceptability.	Yes	Must be purchased from Uprise Health. The Online ASI-MV Connect Data Centre can allow agencies to aggregate CHAT data to monitor trends and characteristics, and automatically generate outcome reports.

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
Dimensions of Change Instrument-Adolescent (DCI-A)	Treatment motivation Problem recognition Family relations Personal development Social network.	Tested in young people aged 13–21 in alcohol and other drug treatment. Preliminary evidence shows good to excellent reliability and validity.	Approximately 1 hour to complete.	Tested in the US.	Was developed in consultation with young people. High acceptability, appraised to be easy to understand and interpreted in the intended manner.	Yes	Designed as a process measure, but certain domains may be used to measure outcomes. The DCI-A is not accessible via the public domain.
Dimensions of Change Instrument-Adolescent Short Form (DCI-A-SF)	Motivation in treatment Personal development Problem recognition Family relationships Social network.	Tested in young people aged 13–21 in alcohol and other drug treatment. Preliminary evidence shows good to excellent reliability and validity.	Approximately 5 minutes to complete. 7 items, scored using a 5-point Likert-type scale. Higher scores indicate positive perceptions of the treatment process.	Tested in the US.	Unsure but long version was developed with adolescents.	Yes	The DCI-A-SF is not accessible via the public domain.

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
Global Appraisal of Individual Needs (GAIN) scales	Substance use Physical health Risk behaviours Mental health Environment Legal Vocational.	SPS, IMDS, BCS, CVS subscales tested in young people aged 11–18 in alcohol and other drug treatment (see below). Good reliability and validity, but some subscales should be treated with caution.	60–120 minutes to complete. Interview or self-report. Low severity: 0%–24% items endorsed. Moderate severity: 25%–74% items endorsed. High severity: 75%–100% items endorsed.	Tested in the US. Noted that American words or phrases may not be applicable in an Australian context.	Not developed with young people. Acceptability unsure.	The full GAIN assessment is long and may take some time to score and interpret. The GAIN subscales are shorter and may be appropriate for generating clinically relevant feedback.	It is commercially available for $100 per 5 years. There is a GAIN-Monitoring for 90 Days (GAIN-M90) version designed for quarterly administration. There are detailed manuals on administration and scoring online. Training required. Further information available here.
GAIN—Behavioural Complexity Scale (BCS)	Problem behaviours.	Tested in young people aged 11–18 in alcohol and other drug treatment.	33-item 4-point scale assessing most recent time a problem has occurred.	Tested in the US. Noted that American words or phrases may not be applicable in an	Not developed with young people. Acceptability unsure.	Yes.	See above.

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
		Good reliability and validity. Best for identifying moderate to high levels of behavioural problems.		Australian context.			
GAIN—Crime and Violence Scale (CVS)	Crime and conflict.	Tested in young people aged 11–18 in alcohol and other drug treatment. Found to be a multidimensional scale, so best divided into two scales to measure conflict (General Conflict Scale) and illegal activity (Property, Interpersonal, Drug Crimes scales).	31-item 4-point scale assessing most recent time a problem has occurred.	Tested in the US. Noted that American words or phrases may not be applicable in an Australian context.	Not developed with young people. Acceptability unsure.	Yes.	See above.

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
		Illegal activities scales have lower reliability, while conflict scales have high reliability.					
GAIN—Internal Mental Distress Scale (IMDS)	Mental disorders.	Tested in young people aged 11–18 in alcohol and other drug treatment. Good reliability and validity. Best for identifying moderate to severe levels of mental distress.	43-item 4-point scale assessing most recent time a problem has occurred.	Tested in the US. Noted that American words or phrases may not be applicable in an Australian context.	Not developed with young people. Acceptability unsure.	Yes.	See above.
GAIN Short Screeners (GAIN-SS)	Alcohol and other drug problems Problem behaviours Mental disorders Crime and conflict.	Tested in young people aged 11–18 in alcohol and other drug treatment.	5 items per screener.	Tested in the US. Noted that American words or phrases may not be	Not developed with young people. Acceptability unsure.	Yes.	See above.

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
		Sound reliability and validity for short screeners for all scales. Using the short screeners to obtain a single score is also not recommended.		applicable in an Australian context.			
GAIN—Substance Problem Scale (SPS)	Alcohol and other drug problems.	Tested in young people aged 11–18 in alcohol and other drug treatment. Very good reliability and validity.	16-item 4-point scale assessing most recent time a problem has occurred.	Tested in the US. Noted that American words or phrases may not be applicable in an Australian context.	Not developed with young people. Acceptability unsure.	Yes.	See above.
Marijuana Adolescent Problem Inventory (MAPI)	Cannabis use problem severity.	Tested in young people aged 12–19 in alcohol and other drug treatment.	Self-report 23-item questionnaire. 4-point scale assessing	Tested in the US.	Not developed with young people. Acceptability unsure.	Yes.	Identified as being free with no training required. 29-item version available here.

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
		Very good reliability. Evidence of test-retest reliability. Good external validity.	number of times problems were experienced. 0 = never 1 = 1–2 times 2 = 3–5 times 3 = 6–10 times 4 = 10+ times.				
Modified Recovery Assessment Scale (RAS)	Recovery, including: Personal determination Skills for recovery Self-control in recovery Social support.	Tested in young people in alcohol and other drug aftercare program. Good reliability. Sound convergent and divergent validity.	5-point scale. 5–15 minutes to complete. Self-report.	Tested in the US. Items appear to be applicable to the Australian context.	Not developed with young people. Acceptability unsure.	Yes.	RAS modified with language to reflect alcohol and other drug use problems. The RAS-DS was developed in Australia with materials available online, but this has not been validated in young people in alcohol and other drug treatment.

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
Peer relations scale (name of scale unknown)	Peer relations.	Tested in young people aged 12–21 discharged from alcohol and other drug treatment. Very good reliability and validity.	5-point scale. 'How many of your friends…?' Range from 'None' to 'Almost all'.	Tested in the US.	Not developed with young people. Acceptability unsure.	Yes.	Does not appear to be available in the public domain.
Readiness Ruler	Readiness to and motivation to change.	Tested in young people aged 14–18 in alcohol and other drug treatment. Good reliability and validity.	Single-item 10-point scale. Very easy to administer. 5 minutes to complete.	Tested in the US. Items appear to be applicable to the Australian context.	Not developed with young people. Acceptability unsure.	Yes.	No training required. Helpful tool to support the use of Motivational Interviewing. Appears to be freely available and can be accessed here (including administration instructions).

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
Substance and Choices Scale (SACS)	Alcohol and other drug use and related difficulties.	Tested in young people aged 13–18 in alcohol and other drug treatment. Very good reliability and validity.	24 items, scored using 3-point scale. Self-report, pen and paper. Very brief and easy to administer and score. Manual describes scoring.	Tested in New Zealand.	Developed in consultation with young people. High acceptability.	Yes.	Freely available online here with resources. No training required, but the manual should be consulted for scoring and interpretation guidelines.
SOCRATES Taking Steps	Readiness to and motivation to change.	Tested in young people aged 14–18 in alcohol and other drug treatment. Good reliability and validity.	19 items, scored using 5-point Likert scale. Easy to complete and administer.	Tested in the US. Items appear to be applicable to the Australian context.	Not developed with young people. Acceptability unsure.	Yes.	Freely available online here with instructions. No training required.
TCU Adolescent Screening and Assessment	General risk Drug use	Tested in young people aged 13–19 in alcohol and	30 minutes to complete, excluding the general risk and	Tested in the US. Items appear to be applicable to	Not developed with young people.	Online system provides instant feedback.	Some training required. The full scales and scoring

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
package (TCU-ASAP)	Psychological functioning Social functioning Family, friends and self-motivation Engagement HIV Criminal thinking Judgement and decision making.	other drug treatment. Adequate reliability and validity.	drug screen modules, which are only used at intake. Paper or computer. Manual describes scoring system. 11 modules with approximately 36 items each. 5-point rating scale, 1 = strongly disagree to 5 = strongly agree.	the Australian context.	Acceptability unsure.	Scannable paper versions must be scanned and uploaded into an Excel-based reporting program.	procedures are available here. Terms and conditions apply.
Teen Addiction Severity Index (T-ASI)	Alcohol and other drug use School status Employment/ support Family relations	Tested in young people aged 13–18 in alcohol and other drug treatment. Good reliability and validity.	Self-complete or interview. Considered feasible and practical. 54 items grouped under	Tested in the US. Some language modifications required to improve applicability to	Not developed with young people. Acceptability unsure.	Unsure (10 minutes interpretation time).	Freely available online here. Training required. Permission may be required to use it.

Outcome measure	Outcome(s) measured	Validity and reliability	Administra-tion and scoring	Applicable to Australian context?	Involvement of/ acceptability to young people	Generates clinically relevant feedback?	Other considerations
	Social relations Legal status Psychiatric status.		the 7 domains, scored using a 5-point Likert-type scale. 20–45 minutes to complete with 10 minutes interpretation time.	the Australian context.			

Table E2—Overview of outcome tools not validated in young people in alcohol and other drug treatment

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
Abbreviated Self Completion T-ASI (ASC T-ASI)	Substance use School Work Family	Tested in young people aged 12–18 with alcohol and other drug problems in	7 items scored using a 5-point Likert-type scale. Brief (about 5 minutes to	Tested in the Netherlands.	Not developed with young people. Acceptability unsure.	Yes.	The ASC T-ASI is available in the open access paper by Reckers-Droog et al. (2020).

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
	Social relationships Justice Mental health.	mental health treatment. Good reliability and validity. Not tested in young people in alcohol and other drug treatment.	complete) and easy to administer.				Permission may be required for use.
Alcohol Use Disorders Identification Test (AUDIT)	Alcohol consumption, dependence, and related problems.	Tested in young people aged 14–18. Good reliability. Not tested in young people in alcohol and other drug treatment.	Self or clinician administered. 5 minutes to complete. A score of 4 or more is indicative of alcohol problems for adolescents.	Tested in Australia.	Not developed with young people. Acceptability unsure.	Yes.	Free and no training required. Further information available here.
Behaviour and Feelings Survey (BFS)	Internalising and externalising symptoms.	Tested in young people aged 7–15 in mental health treatment. Good internal consistency.	12 items. Less than 1 minute required to complete. 5-point scale, 0 = not a problem to 4 = a very big problem.	Validated in the US. Items appear to be applicable to Australian context.	Developed in consultation with young people. High acceptability.	Yes.	Freely available and no training required. Developed specifically for outcome monitoring.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
		Good test-retest reliability. Good convergent and discriminant validity. Good sensitivity to change. Not tested in young people in alcohol and other drug treatment.	Can be completed by caregivers or young people.				Caregiver form available here. Youth form available here.
Cannabis Use Problems Identification Test (CUPIT)	Cannabis use problems.	Tested in young people aged 13–18. Good reliability and validity. Not tested in young people in alcohol and other drug treatment.	Self-report questionnaire, adaptable for computerised administration. Score of 12 or higher indicates cannabis use problems.	Yes.	Not developed with young people. Acceptability unsure.	Yes.	Freely available here.
Child Outcome Rating Scale (CORS)	Personal or symptom distress	Tested in children aged 6–12 and their caregivers.	4-item scale, scoring using a sliding scale (0–10).	Tested in the US.	Young people seem to have been	Yes.	Licence must be purchased here.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
	Interpersonal wellbeing Social role Overall wellbeing Quality of life.	Good to excellent reliability and validity. Not tested in young people in alcohol and other drug treatment.	Brief and easy to complete. Self-report, parent, teacher versions. Clinical cut-off: Child self-reporting = 28 or 32. Carer reporting on child = 28.	Items appear to be applicable to the Australian context.	involved in its development. High acceptability.		It is unclear whether training is required. Young people people 13 and above should use the ORS. The CORS can also be used to solicit feedback from parents and other participants in the child's treatment.
Children's Global Assessment Scale (CGAS)	Level of functioning.	Good internal consistency, interrater reliability, test-retest reliability. Good content validity and concurrent validity. Not tested in young people in	Clinician-completed. One item on a scale of 0–100, broken down into categories. 0 = severe dysfunction, 100 = superior functioning.	Yes. The scale is currently in routine use in Australia.	Not developed with young people. Acceptability unsure.	Yes.	Designed for young people aged 4–16. Has been translated into a range of languages. Free to use and available here. No training materials, but clinicians rely on

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
		alcohol and other drug treatment.	Threshold of psychopathology between 61 and 71.				clinical judgement and should have expertise in the use of psychometric measures.
Depression Anxiety Stress Scales for Youth (DASS-Y)	Depression Anxiety Stress.	Tested in young people aged 7–18. Very good reliability and validity. Not tested in young people in alcohol and other drug treatment.	Self-report. 21 items, scale of 0 = not true to 3 = very true. Cut-off scores available online.	Yes. The scales were developed in Australia.	Developed in consultation with young people.	Yes.	Freely available to use. No training required, but a manual can be purchased for $55. Resources available here.
European Adolescent Assessment Dialogue (EuroADAD)	Physical Work Education Social Family Psychological	Tested in young people aged 12–20 in juvenile institutions and psychiatric outpatients. Good internal consistency.	Considered to be feasible and practical. Face-to-face interview or self-report questionnaire. 150 items.	Tested in Hungary and Netherlands.	Not developed with young people. Acceptability unsure.	Unsure.	It has been identified that there is a free digital version, but does not appear to be available in the public domain. Training required.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
	Criminal Alcohol Drugs.	Good interrater and test-reliability. Good criterion, and convergent and discriminant construct validity. Not tested in young people in alcohol and other drug treatment.	45–55 minutes to complete. Different score ranges for different domains.				
General Health Questionnaire 12 (GHQ-12)	Mental wellbeing.	Tested in young people aged 11–15. Good reliability and validity. Not tested in young people in alcohol and other drug treatment.	Easy to administer and score. 5–15 minutes to complete. Generally a score of 10+ indicates significant psychological distress. Pen and paper or computer.	Yes.	Not developed with young people. Acceptability unsure.	Yes.	A longer version is available (GHQ-28). Access needs to be requested.
Health of the Nations	Aggression Self-harm	Tested in young people.	15–30 minutes to complete.	Yes.	Not developed with young people.	Yes.	Freely available.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
Outcome Scale for Children and Adolescents (HoNOSCA)	Alcohol and drug use Memory/ orientation Physical problems Mood disturbance Hallucination/ delusions Social relations Social environment.	Adequate reliability and validity. Not tested in young people in alcohol and other drug treatment.	Manual describes scoring system.		Acceptability unsure.		One day initial training is recommended, with half-day re-training every two years. Further information available here.
Hooked on Nicotine Checklist (HoNC)	Nicotine dependence.	Tested in young people aged 13–16. Excellent reliability and validity. Not tested in young people in alcohol and other drug treatment.	10-item instrument. Minimal time required; a total score is calculated by summing the number of positive responses.	Yes.	Not developed with young people. Acceptability unsure.	Yes.	Freely available here.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
Kessler Psychological Distress Scale (K10)	Psychological distress.	Tested in young people aged 12–17. Good reliability and validity. Not tested in young people in alcohol and other drug treatment.	Simple scoring and administration. Self-completed or interviewer-administered.	Tested in Australia.	Not developed with young people. Acceptability unsure.	Yes.	Free to use and available here. No expertise required, but may require skills to interpret scores. Future research needs to focus on refining and augmenting the K10 scale to maximise its utility in adolescents.
Kessler Psychological Distress Scale short version (K6)	Psychological distress.	Tested in young people aged 12–25. Good reliability and validity. Not tested in young people in alcohol and other drug treatment.	Simple scoring and administration. Self-completed or interviewer-administered.	Tested in Australia.	Not developed with young people. Acceptability unsure.	Yes.	Free to use and available here. No expertise required, but may require skills to interpret scores. Future research needs to focus on refining and augmenting the K6 scale to

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
							maximise its utility in adolescents.
Ohio Youth Problems, Functioning, and Satisfaction Scales (Ohio scales)	Problem severity (including alcohol and other drug use) Functioning Satisfaction Hopefulness.	Tested in young people aged 5–18 receiving mental health services. Good validity and reliability. Not tested for young people in alcohol and other drug treatment.	20 items, scored on 5-point Likert scale. Can be completed by young person, parent or clinician. A total score is calculated. Relatively brief to administer and score.	Tested in the US.	Not developed with young people. Acceptability unsure.	Yes.	Resources available here, including training videos.
Outcome Rating Scale (ORS)	Personal or symptom distress Interpersonal wellbeing Social role Overall wellbeing Quality of life.	Tested in young people aged 13 and above and their caregivers. Good reliability and validity. Not tested in young people in alcohol and other drug treatment.	Brief, takes less than 5 minutes to complete. Self-report, parent, teacher versions. Cut off for 13–17-year-olds = 28. Cut-off for 18 and over = 25.	Tested in the US. Items appear to be applicable to the Australian context.	Young people seem to have been involved in its development. High acceptability.	Yes.	Licence must be purchased here. It is unclear if training is required.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
Problem Oriented Screening Instrument for Teenagers (POSIT)	Drug use Physical health Mental health Family relations Peer relations Education Occupation Social skills Leisure/ recreation Aggressive behaviour.	Tested in young people. Good validity. Not tested in young people in alcohol and other drug treatment.	139 items, 10 'scales' or problem areas. Pencil and paper, computer or audiotape self-administered; interview. Time required: 20–25 minutes. Scoring time required: 2 minutes using POSIT scoring template.	Tested in the US. Items appear to be applicable to the Australian context.	Not developed with young people. Acceptability unsure.	Yes.	Freely available here. No training required. The POSIT can be used to collect baseline data to comprehensively describe adolescent subject populations. The POSIT Follow-up Questionnaire can be used as a change measure.
Rutgers Alcohol Problem Index	Alcohol-related problems.	Good validity and reliability for young people to assess for problem drinking. Not tested for young people in	23 items, scored on 5-point Likert scale. Brief and easily administered instrument.	Items appear to be applicable to the Australian context.	Not developed with young people. Acceptability unsure.	Unsure (questions related to past 12 months).	No training required. Freely available here.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
		alcohol and other drug treatment.					
Session Rating Scale (SRS)	Therapeutic alliance.	Good reliability and validity in young people. Not tested in young people in alcohol and other drug treatment.	Ultra-brief, high usage rates compared with other measures. Self-report, with parent and teacher versions.	Tested in the US. Items appear to be applicable to the Australian context.	Young people seem to have been involved in its development. High acceptability.	Yes.	Licence must be purchased here.
Severity of Dependence Scale (SDS)	Level of dependence.	Tested in young people aged 14–18 who use cannabis. Good reliability and validity. Not tested in young people in alcohol and other drug treatment.	5-item self-administered questionnaire. Less than 1 minute to complete and 1 minute to score.	Tested in Australia.	Not developed with young people. Acceptability unsure.	Yes.	Free, digital version available here. No training required.
Short-Form Health Survey (SF-36)	Physical functioning	Tested in young people.	5–15 minutes to complete SF-36.	Yes.	Not developed with young people.	Yes	Free to use subject to terms and conditions.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
	Physical role limitation Emotional role limitation Bodily pain Mental health Social functioning Vitality General health perceptions.	Good to excellent reliability and validity. Not tested in young people in alcohol and other drug treatment.			Acceptability unsure.		Training recommended for people without expertise in psychometrics and statistics. Further information available here. There is also a Short-Form Health Survey short version (SF-12) available.
Strengths and Difficulties Questionnaire (SDQ)	Conduct problems Emotional symptoms Hyperactivity Peer relationships Prosocial behaviour.	Tested in children aged 3–17 years. Good to excellent reliability and validity. Not tested in young people in alcohol and other drug treatment.	5–10 minutes to complete, easy to complete, user-friendly. Scoring table available. Self-report, parent report, teacher report.	Yes.	Not developed with young people. Acceptability unsure.	Yes.	Paper versions are free to use for organisations that don't charge clients. Further information available here.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
Symptom Checklist-90-Revised (SCL-90-R)	Psychological symptoms.	Tested in young people. Good to excellent reliability and validity. Not tested in young people in alcohol and other drug treatment.	Scoring varies by scale used.	Yes.	Not developed with young people. Acceptability unsure.	Yes.	Cost applies. Must be registered psychologist with postgraduate psychology qualification to purchase. Available for purchase here.
Symptoms and Functioning Severity Scale (SFSS)	Depression Conduct/ oppositional Anxiety Impulse/ hyperactivity.	Tested in young people aged 11–18 receiving mental health treatment. Good validity and reliability. Not tested in young people in alcohol and other drug treatment.	The current SFSS has three forms: SFSS-Full, SFSS Short-Form A, and SFSS Short-Form B. All created for three respondents: caregiver, clinician, and young people. The full form contains 26 items (clinician version contains 27), using	Tested in the US.	Not developed with young people. Acceptability unsure.	Unsure.	Not available via public domain.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
			a 5-point Likert scale.				
Teen Star	Drugs and alcohol Wellbeing Safety and security Structure and education Behaviour and citizenship Family and other key adults.	Tested in young people. Initial analysis shows good validity and reliability. Not tested for young people in alcohol and other drug treatment.	Unclear.	Tested in the UK.	Developed with young people. Unsure about acceptability.	Yes.	Licence needs to be purchased. Training required, costs apply. The Teen Star is designed to be part of an ongoing process of outcome measurement, learning and service improvement. Further information available here.
Timeline Followback (TLFB)	Frequency, severity, patterns of use.	Unsure if tested in young people. An online version was found to be comparable to the interviewer-	Interviewer-administered or client-administered. Telephone, paper or computer.	Yes.	Online version has high acceptability.	Yes.	Copyrighted, but free to use with acknowledge-ment.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
		administered format for young people aged 15–18, not in alcohol and other drug treatment. However, the validity of the TLFB itself has not been established.	10–30 minutes to complete.				Some training required. Widely used in young people in alcohol and other drug treatment. Extensive TLFB resources available here.
World Health Organization Quality of Life-BREF (WHOQoL-BREF)	Physical health Psychological health Social relationships Environment.	Tested in young people. Moderate reliability and validity (changes are required). Not tested in young people in alcohol and other drug treatment.	Self-report, 26 items. Relatively quick to complete.	Yes.	Not developed with young people. Acceptability unsure.	Unsure (complex to interpret scores).	Freely available. No training required but interpreting the scores is complicated. Extensive resources available here.
Young Person's Clinical Outcomes in	Psychological distress, including:	Good to excellent reliability and validity.	Brief and easy to administer and	Tested in the UK.	Developed with young people. High acceptability.	Yes.	Freely available.

Outcome measure	Domain(s) measured	Validity and reliability	Administration and scoring	Applicable to Australian context?	Involvement of/acceptability to young people	Generates clinically relevant feedback?	Other considerations
Routine Evaluation (YP-CORE)	Wellbeing Symptoms/ problems Functioning Risk.	Not tested in young people in alcohol and other drug treatment.	score. Paper and electronic format. Cut-off points: Male, 11–13 years = 10.3 Male, 14–16 years = 14.1 Female, 11–13 years = 14.4 Female, 14–16 years = 15.9.				Can be used as part of brief intervention. Resources available here.

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