Trends in cannabis availability, use, and treatment in Australia, 2013–14 to 2021-22

Web report | Last updated: **19 Apr 2024** | Topic: <u>Alcohol & other drug treatment services</u>

About

Cannabis is the most widely used illegal drug in Australia, with 2.5 million people in 2022–2023 having used it in the previous 12 months. Between 2013–14 and 2021-22, 221,000 clients received treatment for their cannabis use from publicly-funded drug treatment agencies. This report draws together data from multiple sources to describe trends in cannabis availability, use and treatment in Australia, including the characteristics of people who use or receive treatment for cannabis.

Cat. no: PHE 341

- <u>Cannabis treatment</u>
- <u>Data</u>
- <u>Technical notes</u>

    Findings from this report:

- <u>Between 2019 and 2022–2023, daily cannabis use rose from 14% to 18% of people aged 14+ who had recently used cannabis</u>

- <u>In 2022–2023, 1 in 5 people who had recently used cannabis were identified as having moderate or high risk cannabis use</u>

- <u>Clients who received treatment for cannabis and another PDOC received more episodes than those treated for cannabis only</u>

- <u>For clients who received treatment for cannabis only, a typical pathway involved one or 2 diversion referral episodes</u>

Summary

Australia has among the highest cannabis use rates in the world, with 2.5 million people using it in the previous 12 months in 2022-2023 (AIHW 2024; UNODC 2022). Some people who use cannabis experience harms, including dependence, and may seek treatment for their use. This report draws together data from multiple sources to examine trends in cannabis availability, use, and treatment across Australia. This report describes the characteristics of people who use cannabis and treatment pathways for clients receiving specialised treatment for cannabis use. These data may help inform the design and delivery of effective harm reduction campaigns and treatment services.

Cannabis is readily available in Australia's illegal drug market

Cannabis continues to dominate Australia's illegal drug market, accounting for over 1 in 2 (52%) illegal drug seizures in 2020–21. Surveys of people who use illegal drugs show that the price and purity of cannabis has remained relatively stable, with both bush and hydroponic cannabis consistently reported as 'easy' or 'very easy' to obtain since 2010.

Recent cannabis use has remained stable, but varies by sociodemographic factors

In 2022–2023, 11% of people in Australia aged 14 and over had used cannabis in the previous 12 months, stable from 2019. Males were more likely than females to have recently used cannabis, but this gap has narrowed over time as fewer males and more females report using cannabis. Consistent with previous years, people aged under 30 and those living in regional and remote Australia were the most likely to use cannabis.

People who use cannabis are more likely than those who do not to experience mental illness or high levels of psychological distress

In 2022–2023, people who had recently used cannabis were more likely than those who had not to experience anxiety, depression, and chronic pain. They were also more likely to report high or very high levels of psychological distress. Concerningly, the proportion of cannabis users who experience anxiety has risen from 19% to 24% since 2019.

More people are using cannabis daily, but fewer are using it with other substances

Certain factors may increase the risk of a person experiencing harm from cannabis, including frequency of use and using other drugs at the same time. In 2022–2023, almost 1 in 5 people (18%) who had recently used cannabis did so daily, up from 14% in 2019. Conversely, there was a decrease in the proportion of people who reported using cannabis at the same time as alcohol, tobacco or other illicit drugs.

Some groups are more likely than others to report high risk use of cannabis

In 2022–2023, around 1 in 5 people (18%) who had recently used cannabis were identified as having moderate or high-risk cannabis use. High risk use disproportionately affected females, people aged 14–19, and those with a mental illness diagnosis or experiencing high or very high levels of psychological distress.

Around 221,000 clients received treatment for their own use of cannabis between 2013-14 and 2021-22

Most clients were male, aged 10-29, and resided in *Major cities* or *Inner regional* areas. Over 2 in 3 clients (71%) received treatment for cannabis only, while the remainder (29%) also received treatment for a different drug of concern. Around 605,000 treatment episodes were provided to these clients, most of which were provided to clients who sought treatment for cannabis and another principal drug of concern (67%).

Treatment pathways differed for clients who received treatment for cannabis only, compared with those who received treatment for cannabis and another drug

Among clients who received treatment for cannabis only, a typical treatment pathway for most clients involved one or 2 treatment episodes. For those who received treatment for cannabis and another drug of concern, common treatment pathways involved 2 treatment episodes for cannabis and either alcohol or amphetamines. Across both cohorts, most episodes ended as expected and many involved counselling as the main treatment type. Clients who received treatment for cannabis and another principal drug of concern followed many more unique treatment pathways than clients who received treatment for cannabis only.

Almost half of all clients who received treatment for cannabis received at least one diversion referral episode

Almost half (48%) of all clients received at least one diversion referral episode between 2013–14 and 2021–22. Among clients who received treatment for cannabis only, 2 in 5 (41%) client pathways involved either one or 2 diversion referral episodes and almost half (47%) of these clients were initially referred to treatment via diversion. The most common pathway for clients who received treatment for cannabis and

another principal drug of concern involved 2 diversion referral episodes, but this pathway accounted for just 3.4% of clients. These clients were most commonly referred to treatment via self/family (31%) or a health service (24%) in their initial episode.

Introduction

Cannabis is the most widely used illegal drug in Australia and worldwide, with around 209 million people reporting past year use globally in 2020 (ACIC 2023; UNODC 2022). Australia has among the highest cannabis use rates in the world, with 2.5 million people reporting cannabis use in the previous 12 months in 2022–2023 (AIHW 2024; UNODC 2022). Cannabis use varies by sociodemographic factors; for example, consumption is typically higher in regional areas of Australia than in capital cities (ACIC 2023).

What are cannabinoids (including cannabis)?

Cannabinoids are drugs that have a similar action to the *Cannabis sativa* plant in the brain (ADF 2023). There are between 80 and 100 cannabinoids in the cannabis plant, including delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD). THC is the main psychoactive component of cannabis and is responsible for its intoxicating effects (ADF 2023). Cannabinoids can be used recreationally or medicinally, and include:

- Cannabis, which is available in forms such as herbal cannabis (marijuana), cannabis resin (hashish) and cannabis oil. In Australia, cannabis is often smoked in a joint or water pipe, either alone or with tobacco, or added to food and eaten (AIHW 2024). Cannabis can be grown indoors ('hydroponic cannabis') or outdoors ('bush cannabis').
- Medicinal cannabis, which generally refers to cannabis that is prescribed by a healthcare professional for the treatment of conditions such as chronic pain. In Australia, medicinal cannabis is available in forms including oil, capsule, and flower (MacPhail et al. 2022).
- Synthetic cannabinoid receptor agonists (SCRAs), which are synthetic compounds that are designed to mimic the effects of cannabis but are not structurally related to THC (Darke et al. 2021). SCRAs are powdered chemicals that are typically sprayed onto herbs to give the appearance of cannabis and are usually smoked.

This report focuses primarily on cannabis, as opposed to medically prescribed cannabis or SCRAs. Information on medical cannabis is outlined in 'Medical cannabis'.

People use cannabis for many reasons, and many do so without experiencing any adverse effects. However, cannabis use has been linked to a range of harms. At a broad level, cannabis accounts for substantial social and economic costs. These costs amounted to an estimated $4.5 billion across Australia in 2015–16, mostly relating to criminal justice, healthcare, and workplace expenditure (Whetton et al. 2020). Cannabis use has also been linked to a range of negative health outcomes at the person-level, such as dependence. The risk of harm varies between individuals, and particularly impacts people who use cannabis daily or started using in adolescence (Volkow et al. 2014). Understanding the characteristics of people who may be at increased risk of harm is essential for developing targeted education and awareness campaigns and ensuring adequate access to treatment for those who seek support for their use.

Policy context

The legislative landscape surrounding cannabis in Australia is rapidly evolving. Prior to 2016, cannabis was generally considered to be an illegal narcotic under Australian law. Legislation allowing access to medicinal cannabis products was introduced in 2016, under which healthcare providers can prescribe cannabis for specific medical conditions under strict supervision (Department of Health and Aged Care 2016). In addition, possession of cannabis for personal use has been decriminalised in one jurisdiction (ACT Government 2019). These changes are reflected in shifting attitudes towards cannabis use and policy among the general population, with broad increases in support for decriminalisation and away from legal penalties for possession over time (AIHW 2024). In addition, the Australian Government has implemented numerous strategies that aim to minimise the risk of harm associated with cannabis use and ensure access to evidence-based treatment for people who seek support for their cannabis use.

Key cannabis policies in Australia

National Drug Strategy 2017-2026

The National Drug Strategy (NDS) aims to provide a national framework for minimising harm related to alcohol, tobacco and other drugs in Australia (Department of Health and Aged Care 2017). The NDS is guided by 3 pillars of harm minimisation: demand reduction, supply reduction and harm reduction. Together, these pillars aim to prevent or reduce the uptake, supply and production, and adverse health, economic and social consequences of alcohol, tobacco and other drugs. The NDS also aims to support people to manage their AOD use via evidence-based treatment. Accordingly, research that supports evidence-informed approaches has been identified as a priority action under the NDS.

National Framework for Alcohol, Tobacco and Other Drug Treatment 2019-2029

The National Framework for Alcohol, Tobacco and Other Drug Treatment aims to ensure that all Australians have access to evidence-based treatment (Department of Health and Aged Care 2019). The framework focuses on treatment interventions for AOD use and provides an overview of effective treatment principles.

Purpose of this report

This report uses data from multiple sources to create a robust picture of cannabis availability, use and treatment in Australia over time. Examining cannabis-related trends is timely given Australia's high rate of cannabis use and the potential impacts of recent regulatory changes on cannabis use and associated harms. The report aims to examine:

- Changes in cannabis availability (including supply) over time;
- Changes in the use of cannabis among the Australian population and characteristics of people who use cannabis and their use;
- Characteristics and treatment pathways of people who receive treatment for cannabis.

Data sources and methodology

This report includes data from several different sources to give a robust overview of cannabis availability, use and treatment in Australia (Table 1). Direct comparisons across sources should be interpreted with caution as each source differs by methodology, data items, population group, and terminology. See 'Technical notes' for more information.

Table 1: Summary of data sources used in this report

Data source	Description
Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS NMDS)	An administrative data collection on publicly funded alcohol and other drug treatment services in Australia, reported annually since 2003-04. It includes information on clients (e.g., age, sex) and treatment received (e.g., the principal drug of concern that led the client to seek treatment).
Australian Secondary Students' Alcohol and Drug (ASSAD) survey	A national survey of adolescents aged 12-17 years, conducted every 3 years across Australian schools since 1984. It includes information on lifetime and current use of tobacco, alcohol, and other drugs among school students.
Drug Use Monitoring in Australia (DUMA)	An illegal drug monitoring program including a self-report survey and urinalysis of police detainees across 5 locations across Australia annually. It includes information about drug use and the price, purity, and availability of illegal drugs.
Ecstasy and Related Drugs Reporting System (EDRS)	A national survey of people who use ecstasy and related drugs, conducted annually in Australian capital cities since 2003. The EDRS includes information about participant characteristics (e.g., age, sex), lifetime and recent drug use, and the price, purity, and availability of illegal drugs.
Illicit Drug Data Report (IDDR)	A report that collates national data on illegal drug markets in Australia, reported annually each financial year from 2002-03. The IDDR includes information about arrests, seizures and detections, and the purity and price of illegal drugs.
Illicit Drug Reporting System (IDRS)	A national sentinel survey of people who inject drugs, conducted annually in Australian capital cities since 2000. The IDRS includes information about participant characteristics, lifetime and recent drug use, and the price, purity, and availability of illegal drugs.
National Drug Strategy Household Survey (NDSHS)	A national household survey of people aged 14 and over, conducted across Australia every 2 to 3 years since 1985. The NDSHS includes information about participant characteristics, lifetime and recent use of alcohol, tobacco and other illicit drugs, and attitudes towards drug policy and consumption.
National Wastewater Drug Monitoring Program (NWDMP)	A collection that measures the presence of selected legal and illegal substances in samples obtained from wastewater treatment plants in capital city and regional sites across Australia, reported three times per year since 2016. The NWDMP includes information about the population-weighted average consumption of substances across Australia, with coverage of around 55% of the Australian population for the April 2023 report.

References

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Cannabis availability

This section presents data on the availability of illegal cannabis, using a combination of law enforcement data and self-report surveys of people who use drugs. Analysis of illegal drug markets is complicated, and several caveats should be borne in mind when interpreting these data. Drug market factors (such as price, purity, and accessibility) are often inter-related, and it can be difficult to identify the cause of market changes. For example, some experts have attributed reduced availability of heroin in Australia in the early 2000s (the 'heroin drought') to key heroin seizures and arrests, while others suggest it was likely due to a shift in consumer preferences towards methamphetamine (Degenhardt et al. 2006, Harris et al. 2015). Changes in production and supply (for example, seizures) may also reflect law enforcement activity and not broader market trends. Nonetheless, these data provide a useful indication of the illegal cannabis market in Australia and trends over time. See Technical notes for more information on the data sources included in this section.

Production and supply

The production and supply of cannabis can be assessed using Australia's Illicit Drug Data Report (IDDR), which compiles data on illegal drug arrests, seizures, and border detections across Australia (ACIC 2023). The most recent IDDR shows that cannabis is readily available to consumers. Cannabis accounted for over 1 in 2 (52%) illegal drug seizures in 2020–21, more than any other illegal drug. The number and weight of annual cannabis seizures has increased since 2011–12 but stabilised in 2020–21 compared with the previous year (Table 1.1).

Figure 1: Number and weight of national cannabis seizures, 2011-12 to 2020-21
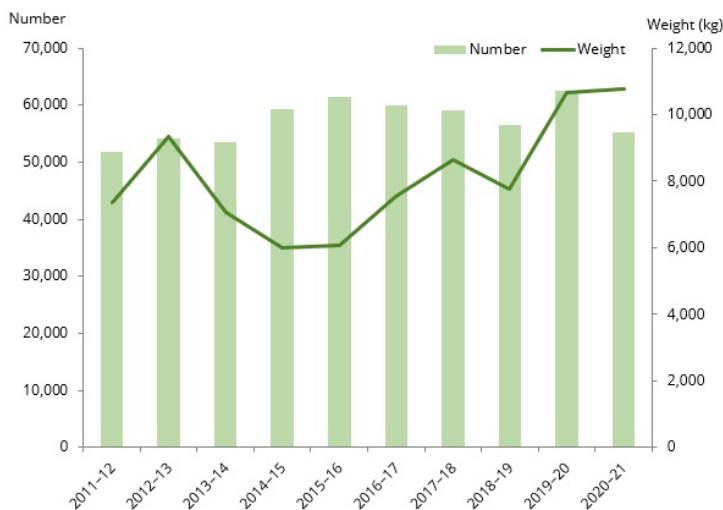

Chart: AIHW. Source: ACC 2009 and 2013; ACIC 2018, 2019, 2020, 2021 and 2023. See Table 1.1.

Note: Includes only those seizures where a drug weight was recorded. Data may be double counted where there were joint operations between the Australian Federal Police and state/territory police.

Price and purity

Price and purity are key indicators of illegal drug markets as they are thought to reflect the availability of a given drug. For example, research on heroin shortages in Australia and the United Kingdom in the 2000s and 2010s has shown that reduced heroin supply impacted purity, price, and patterns of use (Degenhardt et al. 2006; Harris et al. 2015). Information on cannabis price and purity, as reported by people who use cannabis, is included in the Ecstasy and Related Drugs Reporting System (EDRS), the Illicit Drug Reporting System (IDRS), and the Drug Use Monitoring in Australia (DUMA) report.

All 3 surveys indicate that cannabis is generally medium or high purity. Most EDRS and IDRS participants who had used cannabis in the previous 6 months rated its potency as 'medium' or 'high' in 2023 (Sutherland et al. 2023a; Sutherland et al. 2023b). Similarly, ratings of cannabis purity among police detainees who had used cannabis in the previous month indicated relatively high quality in 2021 (median 7/10) (AIC 2022).

The price of cannabis is relatively stable, with a median price of $20 per gram in the 2023 EDRS and IDRS surveys (Sutherland et al. 2023a; Sutherland et al. 2023b). This is similar to the median price reported by police detainees ($17 per gram at the most recent purchase in 2021) (AIC 2022).

Accessibility

Cannabis is generally reported as being easy or very easy to obtain across various data sources, including surveys of people who regularly use stimulant drugs, people who regularly inject drugs, police detainees who use cannabis, and the general population (AIC 2022; AIHW 2024; Sutherland et al. 2023a; Sutherland et al. 2023b).

Data from the EDRS and the IDRS indicate that cannabis is readily available for people who regularly use illegal drugs. In 2023, most EDRS and IDRS participants who had used cannabis in the previous 6 months rated its perceived availability as 'easy' or 'very easy' to obtain (Sutherland et al. 2023a; Sutherland et al. 2023b). This has remained relatively stable over time and is consistent with cannabis availability ratings among police detainees (median 8 out of 10 availability rating in 2021) (AIC 2022).

Data from the 2022–2023 National Drug Strategy Household Survey (NDSHS) suggest that cannabis is increasingly easy to access among the general population. Around 1 in 4 (25%) people aged 14 and over said they were offered or had the opportunity to use cannabis in the past year in 2022–2023, up from 18% in 2010 (AIHW 2024). Perhaps unsurprisingly, people who had used cannabis recently or previously were more likely to have had the opportunity to use it than those who had never used cannabis (Figure 2).

Figure 2: Proportion of people aged 14 and over who were offered or had the opportunity to use cannabis, by cannabis use status, 2010 to 2022-2023

This figure shows the proportion of people aged 14 and over who were offered or had the opportunity to use cannabis, by cannabis use status ("Never used", "Used previously", "Used recently", and "Total"). The figure includes vertical bars for 2010 to 2022-2023.
Chart: AIHW. Source: AIHW 2024, Table 5.25.

Statistically significant change between 2019 and 2022–2023.

(a) Used cannabis previously, but not in the previous 12 months.

(b) Used cannabis in the previous 12 months.

Conclusions

The combination of information presented in this section indicates that cannabis continues to dominate Australia's illegal drug market. The market for cannabis is robust and relatively stable in terms of both price and purity. Cannabis is reported as readily available among people who use drugs, with some indication it is increasingly easy to obtain among the general population. This indicates a need for ongoing monitoring of cannabis availability as well as related harms and trends in treatment for cannabis use.

References

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Cannabis use

This section uses survey data from the 2022-2023 National Drug Strategy Household Survey (NDSHS) to describe self-reported cannabis use amongst people aged 14 and over in Australia. This information is supplemented with data on cannabis use among adolescents from the Australian Secondary Students' Alcohol and Drug (ASSAD) survey, and population-weighted average cannabis consumption estimates from the National Wastewater Drug Monitoring Program (NWDMP). The information in this section primarily relates to non-medical cannabis use (that is, cannabis obtained without a prescription from a doctor), but definitions of cannabis use vary by data source.

> **Defining 'cannabis use'**
>
> In the National Drug Strategy Household Survey (NDSHS), statistics are available for both lifetime and recent cannabis use (that is, use in the previous 12 months) (AIHW 2024). 'Cannabis use' primarily refers to illegal use, but some statistics may include people who have used cannabis solely for medical purposes:
>
> - Data on recent cannabis use excludes people who had only obtained cannabis with a prescription and used it for medical purposes.
> - Data on lifetime cannabis use includes everyone who has used cannabis at least once in their lifetime, and as a result may include people who have only used cannabis for medical purposes. Use of prescribed medical cannabis was relatively low in 2022-2023 and was not responsible for the increases in lifetime use of cannabis since 2019, but trends should be interpreted with caution.
> - Use of cannabis in regions where possession and use of cannabis have been decriminalised is included in statistics for both lifetime and recent use.
>
> In the ASSAD survey, 'cannabis use' refers to illegal use (Scully et al. 2023). It is not possible to distinguish between medical and non-medical cannabis use in the NWDMP, as estimates are based on the metabolite that is excreted following consumption of cannabis. This metabolite is the same regardless of whether cannabis is used for medical or non-medical purposes (ACIC 2023).
>
> See Technical notes for more information on each data source.

Medical cannabis in Australia

Prior to 2016, cannabis was classified as an illegal narcotic under Australian law. In February 2016, this legislation was amended to allow access to medical cannabis for specific patients under strict medical supervision. 'Medical cannabis' is generally used to refer to cannabis that is obtained via a prescription from a healthcare provider, but some people use cannabis for medical purposes without a prescription for self-determined medical purposes. Data sources on both kinds of medical cannabis use in Australia are relatively limited, and some methodologies (for example, wastewater analysis, urinalysis) are not able to distinguish between medical and non-medical use. However, available data on medical cannabis indicate a growing number of Australians are accessing medical cannabis via a prescription.

Data from the 2022-2023 NDSHS indicate that 3.0% of people aged 14 and over had used cannabis for medical reasons in the previous 12 months, either sometimes (2.0%) or always (1.0%) (AIHW 2024). Among those who exclusively used cannabis for medical purposes, 7 in 10 (70%) did so without a prescription. Access via medical pathways, however, is becoming more common. In 2019, just 1.8%* of people who used cannabis for medical purposes always had it prescribed by a doctor; in 2022-2023, this proportion increased to 22% (AIHW 2024).

* Estimate has a relative standard error between 25% and 50% and should be interpreted with caution.

Data on medical cannabis approvals are sourced from the Therapeutic Goods Administration (TGA), which is the regulatory body for medical cannabis access in Australia. The TGA does not record the number of cannabis prescriptions dispensed but does record approvals for access to medical cannabis via two different pathways: the Authorised Prescriber Scheme (AP) and the Special Access Scheme Category B (SAS-B) (TGA 2023). TGA data indicate a substantial rise in the number of medical cannabis approvals since 2016, with 963,000 approvals via the AP pathway and 458,000 via the SAS-B pathway from July 2016-December 2023. Of those 458,000 SAS-B approvals, 234,000 were for chronic pain and 117,000 were for anxiety (TGA 2023). More information is available on the TGA's Medicinal Cannabis Hub.

Cannabis use

Data from the most recent NDSHS showed that 2.5 million people (11% of the population aged 14 and over) had used cannabis in the previous 12 months in 2022-2023 (AIHW 2024). This was stable from 2019, but self-reported lifetime use increased across the same period (Figure 4; Tables 2.1-2.2). Most people who had recently used cannabis usually obtained it from a friend or a dealer (61% and 21%, respectively), and 9 in 10 usually used it in a private home (90%). Cannabis was commonly smoked on its own in a joint or from a bong (33% and 25%, respectively), or with tobacco in a joint (17%) (AIHW 2024). These methods of use are also commonly reported in surveys of people who regularly use stimulants or regularly inject drugs, and adolescents who use cannabis (Sutherland et al. 2023a; Sutherland et al. 2023b; Scully et al. 2023).
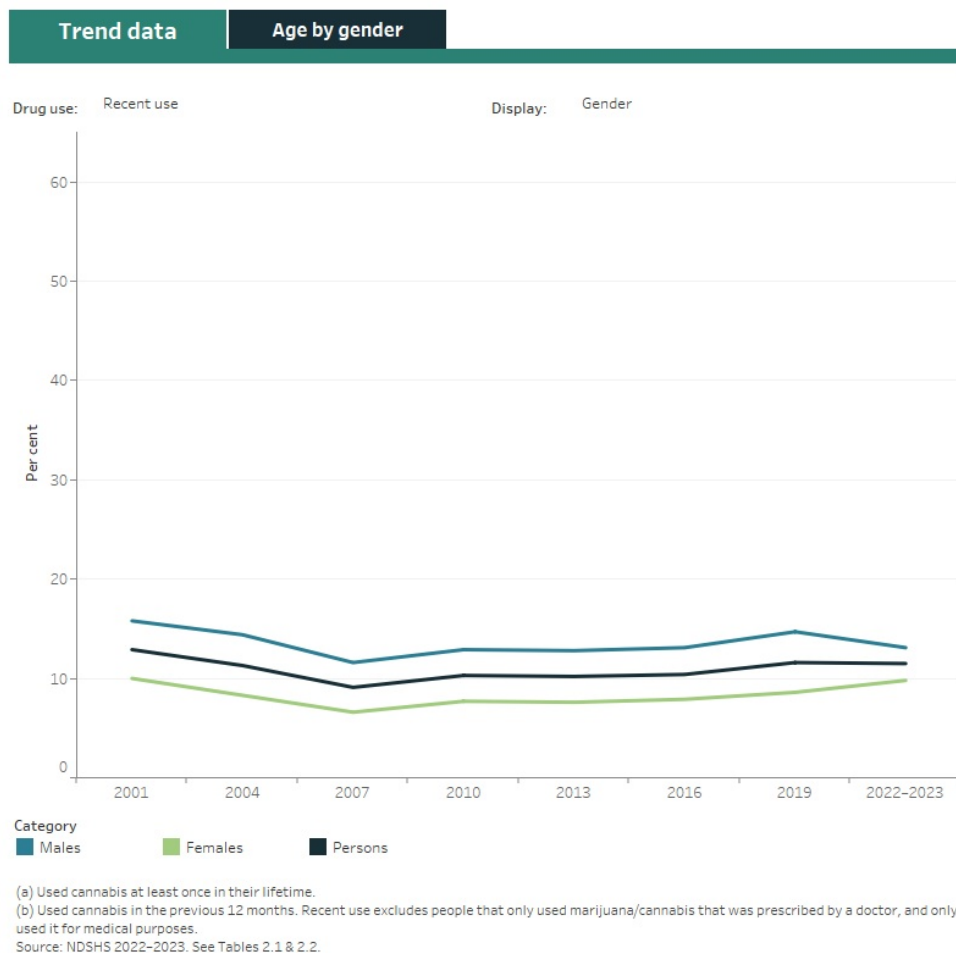
Who uses cannabis?

As in previous years, males were more likely than females to have recently used cannabis (13% compared with 9.8%). However, this gap has narrowed over time as fewer males and more females report using cannabis. This was particularly apparent among younger people, with a higher proportion of females than males aged 14–19 reporting recent cannabis use in 2022–2023 (18% compared with 13%) (Figure 3; Tables 2.1–2.2).

People aged under 30 were more likely to have recently used cannabis than those in older age groups in 2022–2023 (Figure 3). The mean age of people who had recently used cannabis increased from 29 years in 2001 to 36 in 2022–2023 (AIHW 2024).

Figure 3: Lifetime[a] or recent[b] use of cannabis, by age group and gender, people aged 14 and over, 2001 to 2022-2023

This figure shows lifetime and recent use of cannabis among people aged 14 and over between 2001 and 2022-2023. A filter is available to view the data by age group or gender and by lifetime or recent drug use. A toggle is also available to navigate between trend data and a single year of data displayed by both age group and gender.

(a) Used cannabis at least once in their lifetime.
(b) Used cannabis in the previous 12 months. Recent use excludes people that only used marijuana/cannabis that was prescribed by a doctor, and only used it for medical purposes.
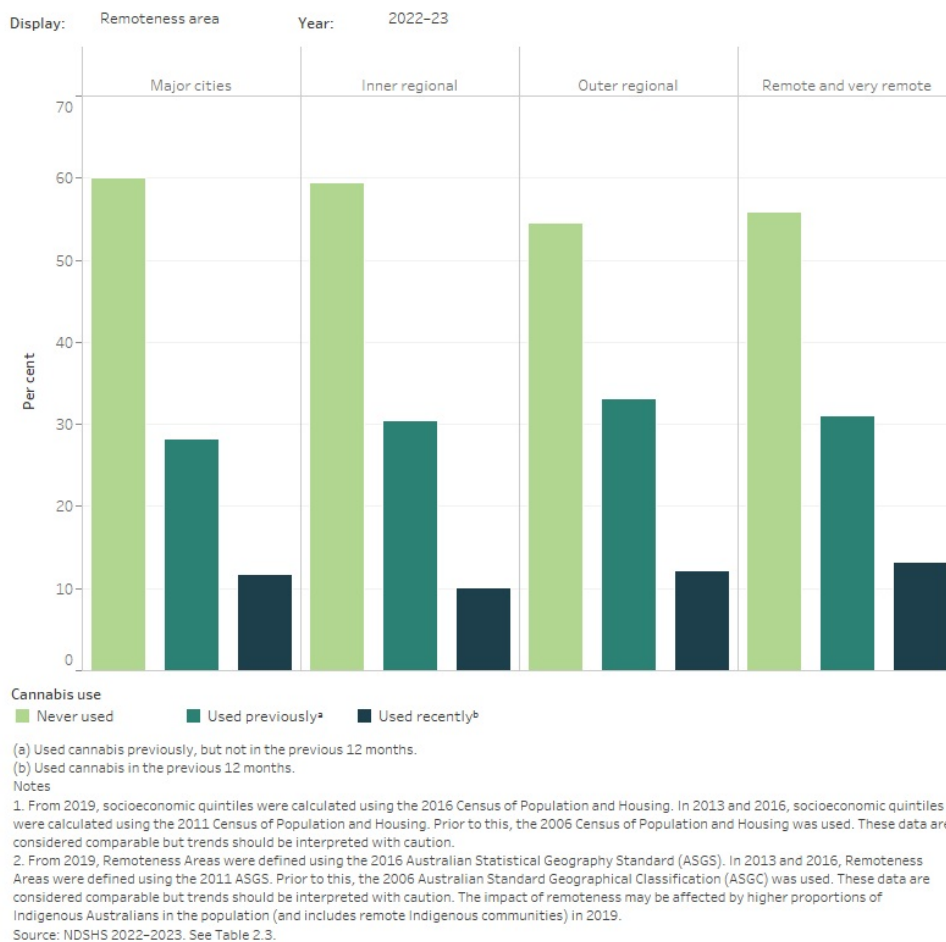Source: NDSHS 2022–2023. See Tables 2.1 & 2.2.

Data from the ASSAD survey indicate that use of cannabis among secondary school students is similar to that of the general population. In 2022-2023, 12% of students aged 12–17 had used cannabis in the past year and 6.6% had used it within the past month (Scully et al. 2023). Older students aged 16–17 were more likely than those aged 12–15 to have used cannabis in the past month (11% compared with 4.6%). Both lifetime and past month cannabis use declined for those aged 16–17 between 2017 and 2022–2023, while for younger students it has remained stable since the early 2000s.

Cannabis use by geographic and socioeconomic area

Wastewater data from the NWDMP show that the population-weighted average consumption of cannabis is typically higher in regional areas than in capital cities (ACIC 2023). Results from the NDSHS support this: in 2022–2023, people living in *Remote* and *Very remote* areas were more likely to have used cannabis recently (13%), compared with those in *Major cities* or *Inner regional* areas (12% and 10%, respectively) (Figure 4; Table 2.3). This pattern has remained relatively consistent over time, but the gap in recent cannabis use between remoteness areas has diminished over time. Cannabis use also varied by socioeconomic area, with people living in the most advantaged socioeconomic areas being the most likely to have used cannabis recently in 2022–2023 (13%).

Figure 4: Cannabis use, by remoteness area or socioeconomic area, people aged 14 and over, 2007 to 2022-2023

This figure shows cannabis use among people aged 14 and over by cannabis use status ("Never used", "Used previously", and "Used recently"). Filters are available to show data by remoteness area or socioeconomic area, and for different years.

| | Major cities | Inner regional | Outer regional | Remote and very remote |

Cannabis use
■ Never used   ■ Used previously[a]   ■ Used recently[b]

(a) Used cannabis previously, but not in the previous 12 months.
(b) Used cannabis in the previous 12 months.
Notes
1. From 2019, socioeconomic quintiles were calculated using the 2016 Census of Population and Housing. In 2013 and 2016, socioeconomic quintiles were calculated using the 2011 Census of Population and Housing. Prior to this, the 2006 Census of Population and Housing was used. These data are considered comparable but trends should be interpreted with caution.
2. From 2019, Remoteness Areas were defined using the 2016 Australian Statistical Geography Standard (ASGS). In 2013 and 2016, Remoteness Areas were defined using the 2011 ASGS. Prior to this, the 2006 Australian Standard Geographical Classification (ASGC) was used. These data are considered comparable but trends should be interpreted with caution. The impact of remoteness may be affected by higher proportions of Indigenous Australians in the population (and includes remote Indigenous communities) in 2019.
Source: NDSHS 2022–2023. See Table 2.3.

Health conditions among people who use cannabis

Defining 'mental health condition'

In the National Drug Strategy Household Survey (NDSHS), people aged 18 and over who reported that they had been diagnosed or received treatment for depression, an anxiety disorder, schizophrenia, bi-polar disorder, other form of psychosis or an eating disorder in the previous 12 months are defined as having a mental health condition. The terms 'mental illness' or 'mental health condition' are used interchangeably throughout the report (AIHW 2024).

Most people who had used cannabis in the previous 12 months reported their health as 'good' (32%) or 'very good' (38%) in 2022–2023 (Figure 5; Table 2.4). Mental health conditions, however, were more commonly experienced among this cohort than for people who had not used cannabis, including both anxiety (24% compared with 11%) and depression (23% compared with 12%).
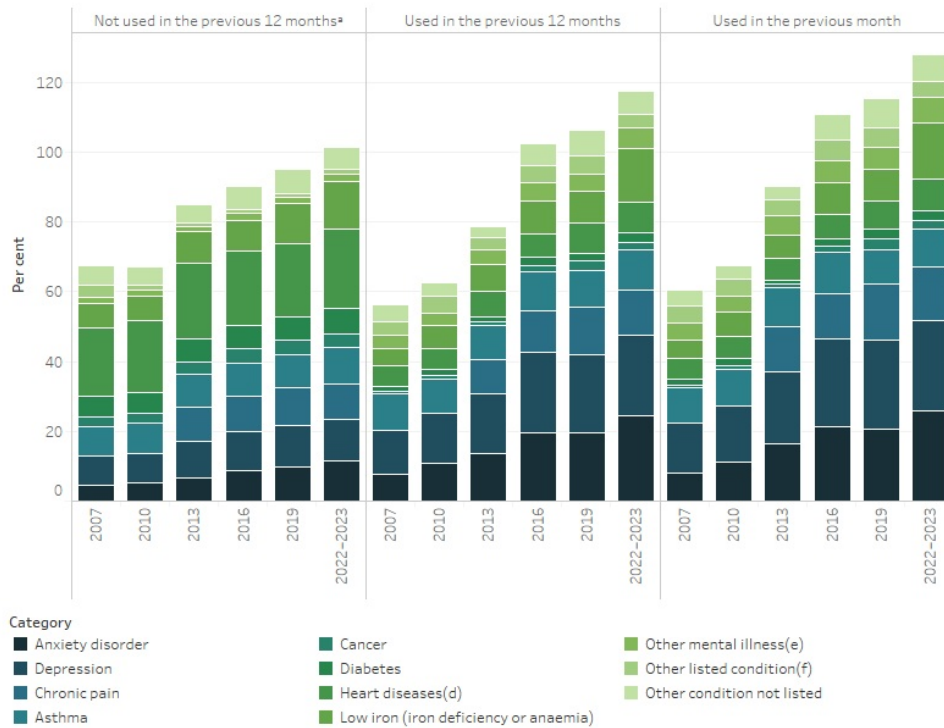
People who had used cannabis in the previous 12 months were also more likely to report experiencing high or very high levels of psychological distress (31% compared with 15% for those who had not used cannabis).

Concerningly, the proportion of people experiencing anxiety increased substantially between 2019 and 2022–2023 across all 3 cohorts (Figure 5). This increase disproportionately impacted people who use cannabis, who were more than twice as likely to experience anxiety and twice as likely to experience high or very high levels of psychological distress compared with people who do not use cannabis. This highlights a need for improved access to both mental health and alcohol and other drug support among people who use cannabis, in addition to other healthcare services (for example, GPs).

Figure 5: Self-assessed health status, health conditions or psychological distress, by cannabis use, people aged 18 and over, 2007 to 2022-2023

This figure shows self-reported health status, health conditions and psychological distress among people aged 18 and over from 2007 to 2022-2023, by cannabis use status ("Not used in the previous 12 months", "Used in the previous 12 months", "Used in the previous month"). A filter is available to show the data by self-reported health conditions (for example, anxiety, asthma), level of psychological distress, and self-reported health status.

Not used in the previous 12 months³   Used in the previous 12 months   Used in the previous month

Category

- Anxiety disorder
- Depression
- Chronic pain
- Asthma
- Cancer
- Diabetes
- Heart diseases(d)
- Low iron (iron deficiency or anaemia)
- Other mental illness(e)
- Other listed condition(f)
- Other condition not listed

(a) Includes people who have never used cannabis and those who have used it previously but not in the previous 12 months.
(b) In response to the question 'In general, would you say your health is...?'.
(c) Respondents could select any number of conditions in response to the question 'In the last 12 months have you been diagnosed or treated for...?'.
(d) Includes heart disease and hypertension (high blood pressure).
(e) Includes schizophrenia, bipolar disorder, an eating disorder and other form of psychosis.
(f) Includes sexually transmitted infections and hepatitis B or C.
(g) Low: K10 score 10–15, Moderate: 16–21, High: 22–29, Very high: 30–50.
Source: NDSHS 2022–2023. See Table 2.4.

Existing evidence suggests that cannabis is often prescribed and/or used medically for the management of both chronic pain and mental health conditions. While the NDSHS does not include information about what conditions cannabis is prescribed for, it does include information about health conditions among people who use medical cannabis. In 2022–2023, a high proportion of people who had medical cannabis prescribed to them experienced anxiety (49% compared with 13% nationally), depression (47% compared with 13%), or chronic pain (43% compared with 11%) (AIHW 2024). Similarly, TGA data indicate that 234,000 of the total 458,000 SAS-B cannabis approvals between July 2016 and December 2023 were for chronic pain and a further 117,000 were for anxiety (TGA 2023).

Risk factors for cannabis-related harm

Cannabis use has been linked to various harms including dependence and overdose (Volkow et al. 2014; Whetton et al. 2020). Notably, 1 in 10 Australians (10%) who had recently used cannabis reported that they could not stop or cut down their cannabis use even if they wanted to in 2022–2023 (AIHW 2024). Additionally, people who had recently used cannabis were more likely than those who had not to access a range of alcohol, tobacco, and other drug treatment services including information and education (9.0% compared with 2.3%), counselling (8.2% compared with 1.7%), and medications to help quit smoking (5.7% compared with 2.6%) (Table 2.5).

Certain psychosocial and drug use factors may increase the risk of a person experiencing harm from cannabis. For example, people who start using cannabis at a younger age or who use it more frequently are more likely to develop dependence. Using other drugs at the same time as cannabis can also increase the risk of overdose or other adverse events (National Academies of Sciences, Engineering and Medicine 2017; Volkow et al. 2014). This section focuses on key factors that may indicate a risk of harm, namely age of initiation, frequency of use, polydrug use (that is, using alcohol or other drugs at the same time as cannabis) and dependence risk scores.
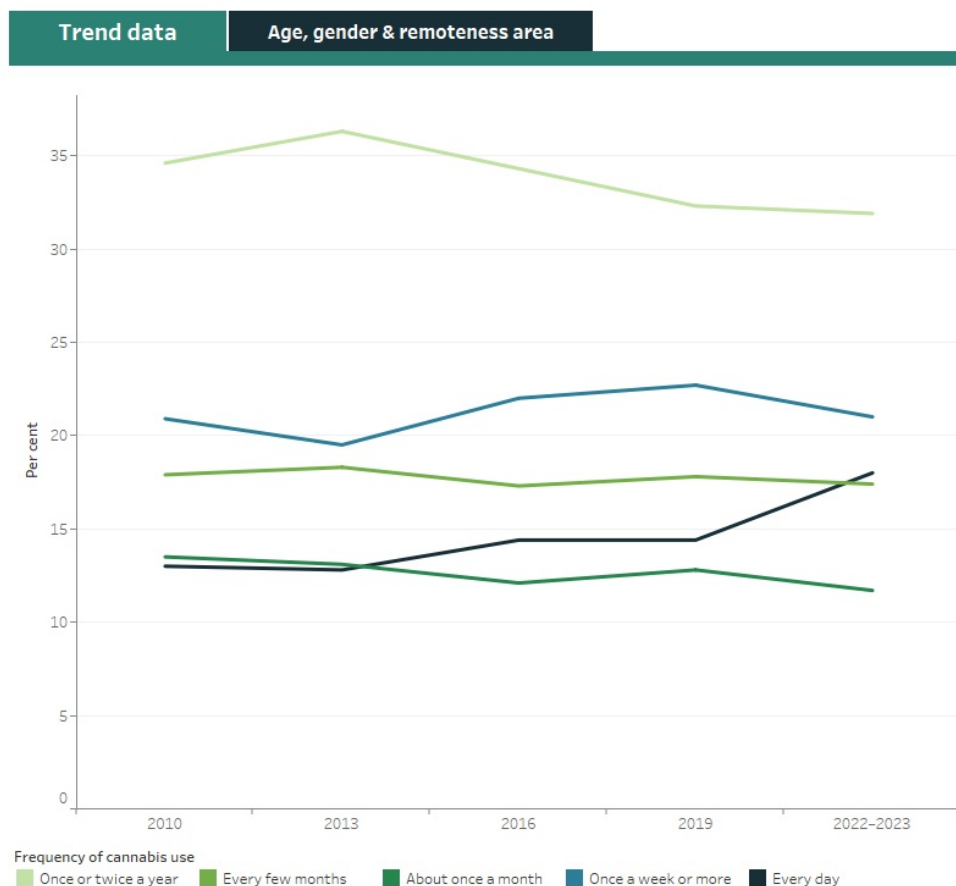
Age of initiation of cannabis use

The mean age of initiation of lifetime cannabis use was 19.1 years in 2022–2023, stable from 18.9 in 2019. This age is higher than in 2007 but remains younger than the age of initiation for any other illegal drug (Table 2.6). Age of initiation of cannabis use is typically lower in *Remote and very remote* areas compared with *Major cities*.

Daily cannabis use

In 2022–2023, 3 in 5 people (61%) who had recently used cannabis did so about once a month or less often. Almost 1 in 5 people (18%) who had recently used cannabis did so every day, up from 14% in 2019. Males were more likely than females to report daily use, and people in their 50s and over were more likely than younger people to use daily. People in *Outer regional* areas were the most likely to report daily use (27%) and those in *Major cities* were the least likely (16%) (Figure 6; Tables 2.7–2.9).

Figure 6: Frequency of cannabis use, overall and by age group, gender or remoteness area, people aged 14 and over who have recently[a] used cannabis, 2010 to 2022-2023

This figure shows the frequency of cannabis use among people who have recently used cannabis from 2010 to 2022-2023, including "Once or twice a year", "Every few months", "About once a month", "Once a week or more", and "Every day". A toggle is available to view trend data overall or by age group, gender, or remoteness area.

(a) Used cannabis in the previous 12 months.
Source: NDSHS 2022–2023. See Tables 2.7–2.9.

Use of other drugs at the same time as cannabis

Use of other drugs at the same time as cannabis is common but has declined since 2019. Between 2019 and 2022–2023, there were decreases in the proportion of people who used cannabis with alcohol (from 87% to 74%), tobacco (from 63% to 41%) or any illicit drug (from 35% to 23%) (Figure 7; Tables 2.10–2.12). Conversely, the proportion of people who did not use other drugs together with cannabis ('none of the above') rose from 3.4% to 19%. Use of other drugs varied among different population groups:

- Males were more likely than females to have used alcohol, tobacco, or any illicit drug at the same time as cannabis in 2022-23.
- People in their 50s were more likely than those in other age groups to have used cannabis at the same time as alcohol or tobacco, while those in their 20s were the most likely to have used it with an illicit drug.
- People in *Remote or very remote* areas were the most likely to use alcohol (79%) or tobacco (51%) at the same time as cannabis, while those in *Major cities* were the most likely to report using illicit drugs (24%) or not using other drugs (20%) with cannabis (Figure 7).

Figure 7: Other drugs used at the same time as cannabis, overall and by gender, age group, or remoteness area, people aged 14 and over who have recently[a] used cannabis, 2010 to 2022-2023

This figure shows the proportion of people aged 14 and over who recently used cannabis, by other drugs used at the same time as cannabis (including "Alcohol", "Tobacco", "Illicit drugs" and "None of the above"). A toggle is available to view trend data overall or by age group, gender, and remoteness area.

Drug type
- Alcohol
- Tobacco
- Cocaine
- Ecstasy
- Hallucinogens
- Methamphetamine and amphetamine(b)
- Pain-killers/pain-relievers and opioids(b,c)
- Tranquillisers/sleeping pills(b)
- Other
- None of the above
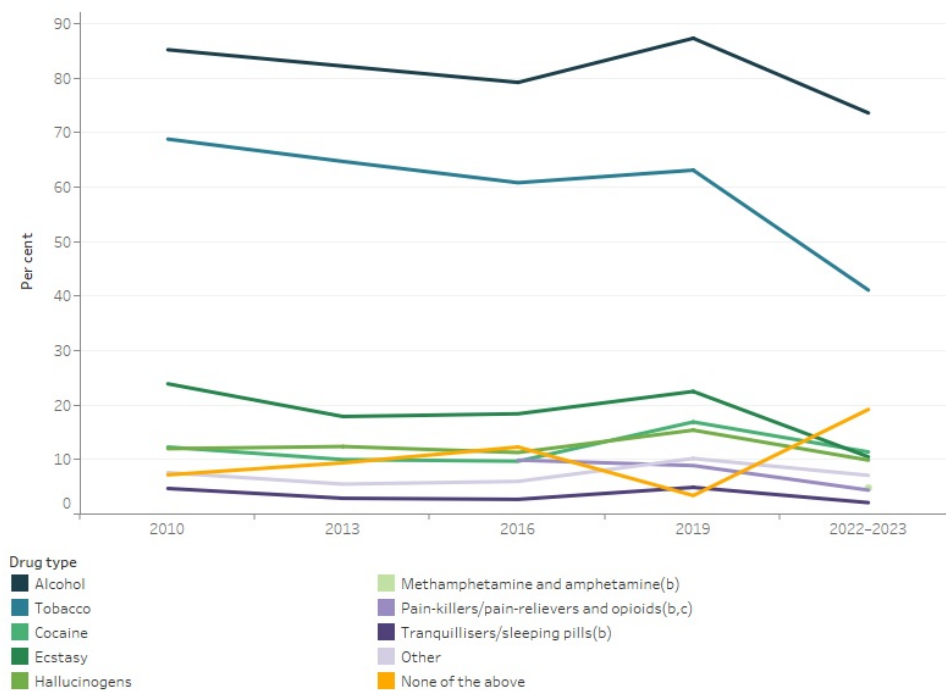
(a) Used in the previous 12 months.
(b) For non-medical purposes.
(c) Included 'Prescription pain-killers/analgesics', 'Over-the-counter pain-killers/analgesics' and 'Other opiates/opioids' in 2010 and 2013.
Notes
1. Base is people who used cannabis in the previous 12 months. Due to this change, data may not match previously published results.
2. Respondents could select more than one response.
3. Data for methampetamine and amphetamine are not available for 2010, 2013, 2016 and 2019.
4. Data for pain-killers/pain-relievers/opioids are not available for 2010 and 2013.
Source: NDSHS 2022–2023. See Tables 2.10–2.12.

Who is at higher risk of cannabis dependence?

> **'High risk' cannabis use**
>
> The National Drug Strategy Household Survey (NDSHS) includes several questions from the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST-Lite), which categorises use of drugs as 'low risk', 'moderate risk' and 'high risk'. High risk scores may indicate a person is experiencing dependence and is likely to require specialist assessment and treatment for their substance use (Ali et al. 2013).

Around 1 in 5 people (18%) who had recently used cannabis in 2022–2023 were identified as having moderate or high risk cannabis use (Figure 8; Tables 2.13–2.16). This was consistent with 2019, but high risk use disproportionately affected certain groups:

- A higher proportion of females than males reported high risk cannabis use (4.8% compared with 3.7%), and this proportion more than doubled from 2019 (1.8%*). This is concerning given that females were less likely than males to report use of cannabis in the previous 12 months (9.8% compared with 13% in 2022-2023).
- People aged 14-19 were more likely than other age groups to have high risk cannabis use (11% compared with 4.1% for all people aged 14 and over). This group also had the highest proportion of people in the moderate risk use category (17% compared with 14.4% overall).
- High risk cannabis use was more common among people with a mental illness diagnosis or treated for a mental health condition (8.2%* compared with 3.6% who were not) and those experiencing high or very high levels of psychological distress (8.0% compared with 1.2% for people experiencing low distress).
- People in *Inner regional* areas were more likely than other groups to have high risk cannabis use (5.4%*), while those in *Outer regional* areas were the most likely to have moderate risk use (17%).

* Estimate has a Relative Standard Error of 25–50% and should be interpreted with caution.

Figure 8: Risk score for cannabis use, by age group or gender, mental health conditions, or psychological distress, or remoteness area, people aged 14 and over who have recently[a] used cannabis, 2019 to 2022-2023

This figure shows the risk score for cannabis use among people aged 14 and over who have recently used cannabis, including the proportion with "Low risk", "Moderate risk", or "High risk" cannabis use. A filter is available to display the data by age group, gender, mental health conditions, psychological distress, or remoteness area.

Display: Age group

Risk score for cannabis use
- Low risk
- Moderate risk
- High risk
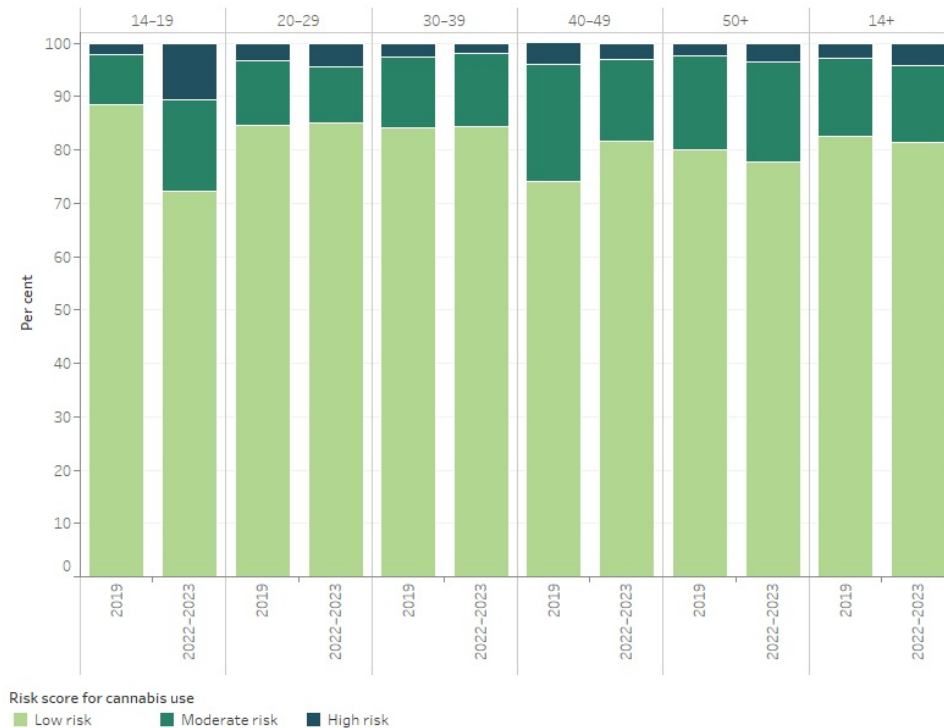
(a) Risk calculated using questions from the ASSIST-Lite. 'High risk' scores may indicate a substance dependence issue, while 'moderate risk' scores indicate use that may be hazardous or harmful. People who receive a high risk score are likely to require specialist assessment and treatment for their substance use.
(b) Used in the previous 12 months.
(c) Low: K10 score 10–15, Moderate: 16–21, High: 22–29, Very high: 30–50.
(d) Includes depression, anxiety disorder, schizophrenia, bipolar disorder, an eating disorder and other form of psychosis.
Note: Data for 'High risk cannabis use' are not available for Remote and very remote areas in 2022–2023.
Source: NDSHS 2022–2023. See Tables 2.13–2.16.

Conclusions

The findings described in this section indicate that certain groups of people who use cannabis may be at increased risk of experiencing harm. Women, younger people, and those living in regional or remote areas may benefit from targeted education and awareness to facilitate treatment seeking.

These findings highlight the complex relationship between cannabis use and physical and mental health. People who use cannabis (with or without a prescription) are more likely than those who do not to experience conditions like chronic pain, depression, and anxiety. In describing these characteristics, it also represents an opportunity for healthcare providers to engage with people about additional types of support they may need (for example, alcohol and other drug (AOD) or mental health services).

References

ACIC (Australian Criminal Intelligence Commission) (2023). _National Wastewater Drug Monitoring Program Report 20_, ACIC, Australian Government, accessed 28 February 2024.

AIHW (Australian Institute of Health and Welfare) (2024) _National Drug Strategy Household Survey 2022-2023_, AIHW, Australian Government, accessed 29 February 2024.

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Cannabis treatment

This section uses data from the Alcohol and Other Drug Treatment National Minimum Data Set (AODTS NMDS) to describe the characteristics of people who received treatment for cannabis use between 2013–14 and 2021–22. The AODTS NMDS contains information about treatment provided to clients by publicly funded specialist alcohol and other drug (AOD) treatment services across Australia. It has been reported annually since 2003-04, with collection periods beginning on 1 July and ending on 30 June of the following year (that is, financial years). It includes data on the number of closed treatment episodes (that is, episodes of care) provided to clients and the number of clients who received treatment in a collection period (that is, financial year), noting that the same client may receive multiple treatment episodes within or across collection periods. In 2012–13, a statistical linkage key (SLK) was introduced to enable counting of the number of individual clients receiving treatment across collection periods. Clients receiving treatment for another person's AOD use were excluded from this report. For more information, see Technical notes.

Annual clients who received treatment for cannabis, 2013-14 to 2021-22

Data from the annual reporting cycle of the AODTS NMDS indicate that cannabis is the third most common principal drug of concern among treatment episodes provided to clients for their own drug use, accounting for 19% of episodes in 2021–22 (AIHW 2023). This represents a rate of 115 clients and 178 episodes per 100,000 population, down from a peak of 153 clients and 216 episodes per 100,000 in 2015–16 (Figure 9; Table 3.1).

Figure 9: Annual number and rate of clients and treatment episodes, where cannabis was a principal drug of concern, 2013-14 to 2021-22
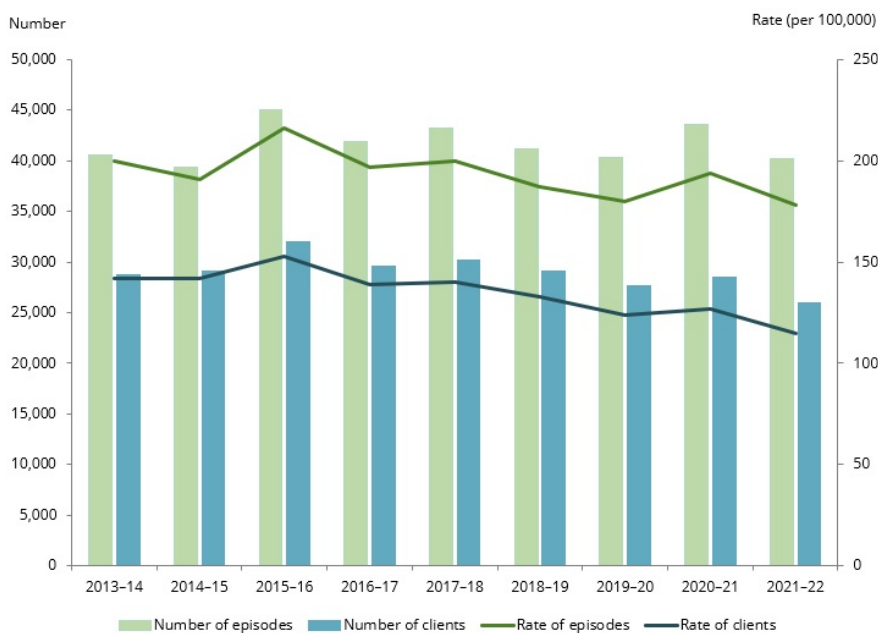
Source: AODTS NMDS 2021–22. See Table 3.1.

Notes

1. Based on client records with a valid and statistical linkage key (SLK).
2. The crude rate is based on the preliminary Australian estimated resident population as at 31 December of the preceding year based on the 2021 Census. Rates may differ from previously published data based on revised Australian population estimates.
3. Based on clients who received treatment for their own cannabis use.

Longitudinal client cohort who received treatment for cannabis, 2013-14 to 2021-22

The remainder of this section uses data from the AODTS NMDS to describe the characteristics of clients who received treatment for cannabis as a principal drug of concern (PDOC) and their pathways through alcohol and other drug (AOD) treatment. Clients can only receive treatment for one PDOC per treatment episode, but clients may also receive multiple treatment episodes for different principal drugs of concern. In this report, the criteria include information about a cohort of clients who received at least one closed treatment episode in at least one collection period between 2013–14 and 2021–22 where cannabis was the PDOC. This cohort includes:

- 'Cannabis only', which refers to clients who only received treatment for cannabis (that is, one or more treatment episodes for cannabis and no treatment episodes for another principal drug of concern).

- 'Cannabis and another PDOC', which refers to clients who received treatment for cannabis and another principal drug of concern (that is, clients who received at least one treatment episode for cannabis and at least one treatment episode for another PDOC, such as alcohol).

Client counts are reported for both cohorts and combined as 'clients who ever received treatment for cannabis' (that is, the total cohort). Information about treatment episodes provided to these clients is also included. In the sections below, the period 2013-14 and 2021-22 is referred to as the 'study period'. See Technical notes for more information.

A total of 221,186 clients received treatment for cannabis between 2013-14 and 2021-22 (that is, the study period) (Table 2). Over 2 in 3 clients (71%) received treatment for cannabis only, while the remainder (29%) also received treatment episodes for a different principal drug of concern. Together, these clients received a total of 604,748 treatment episodes across the period. Around 2 in 3 (67%) treatment episodes for the total cohort were provided to clients receiving treatment for cannabis and another PDOC (Table 2).

Table 2: Clients with cannabis as a principal drug of concern and treatment episodes, 2013–14 to 2021-22

	Clients N	Clients %	Treatment episodes N	Treatment episodes %
Cannabis only	156,253	71%	225,732	37%
Cannabis and ≥1 other principal drug of concern	64,933	29%	379,016	63%
Total	221,186	100%	604,748	100%

Source: AODTS NMDS 2021-22.

Notes

1. Based on clients who received treatment for their own cannabis use in at least one treatment episode in at least one collection period (that is, financial year) between 2013-14 and 2021-22.
2. Treatment episode data includes episodes for a principal drug of concern other than cannabis provided to clients who had ever received treatment for cannabis (for example, clients who had received treatment for both cannabis and alcohol across separate episodes would have both episodes counted in these data).

Client characteristics

Clients who had only received treatment for cannabis were more likely to be aged 10-19 than those who received treatment for cannabis and another PDOC (36% compared with 26%) (Figure 10, Table 3.2-3.4). Distributions for sex and remoteness area were similar across both cohorts of clients who had ever received treatment for cannabis.

Figure 10: Clients who had ever received treatment for cannabis, by cohort and age group, sex, and remoteness, 2013-14 to 2021-22

This figure shows the proportion of clients who had ever received treatment for cannabis between 2013-14 and 2021-22, by cohort ("Cannabis only", "Cannabis + other", and "Cannabis ever"). A filter is available to display the data by age group, sex, or remoteness area.

Display: Age group
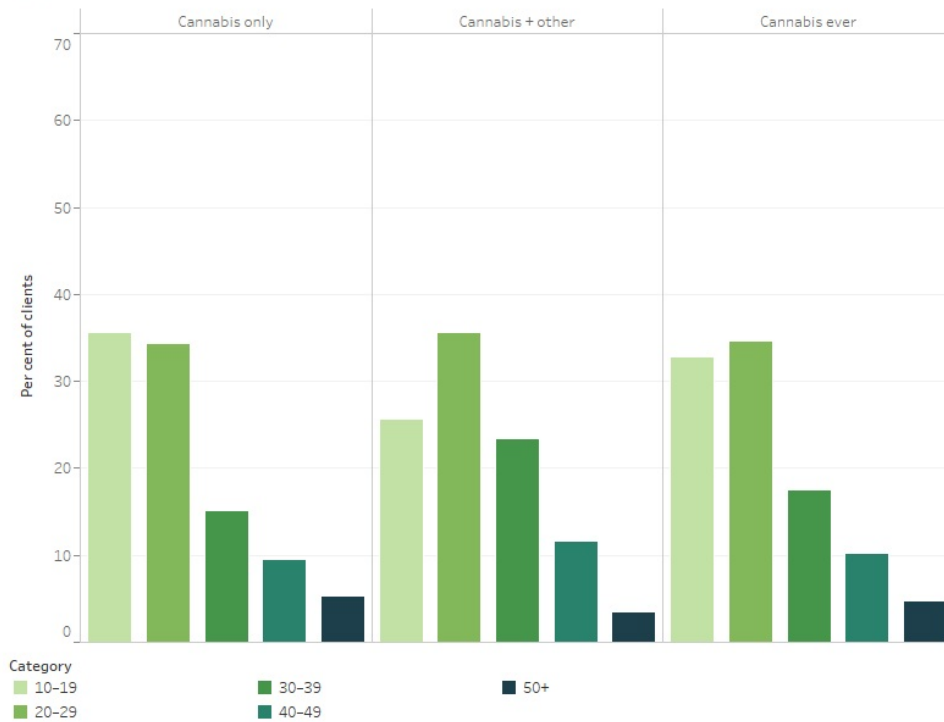
(a) Cannabis only refers to clients who had only ever received treatment for cannabis as the principal drug of concern across the study period, including those with multiple episodes of treatment for cannabis.
(b) Cannabis and another principal drug of concern refers to clients who had received at least one treatment episode for cannabis as the principal drug of concern and at least one other treatment episode with a different principal drug of concern across the study period.

Notes
1. Based on client records with a valid and distinct statistical linkage key (SLK), no imputation applied from 2013–14 to 2021–22.
2. Based on clients who received treatment for their own cannabis use.
3. Excludes records where remoteness area could not be calculated (n=9,369). Remoteness area calculated using client postcode data.
Source: AODTS NMDS 2021–2022. See Tables 3.2–3.4.

Treatment episode characteristics

Of all treatment episodes provided to clients who had ever received treatment for cannabis between 2013–14 and 2021–22:

- Diversion was the most common source of referral for clients who only received treatment for cannabis (39% of treatment episodes), while self/family was the most common referral source among those who received treatment for cannabis and another PDOC (36% of episodes).
- Counselling was the most common treatment type for both cohorts (43% and 35% of episodes for clients who only received treatment for cannabis and those who received treatment for cannabis and another PDOC, respectively).
- Most episodes ended with an expected/planned completion for both cohorts, but this proportion was higher for clients who only received treatment for cannabis than those who received treatment for another PDOC (73% and 59%, respectively).
- Among clients who received treatment for cannabis and another PDOC, the most common PDOCs were cannabis (38% of episodes), amphetamines (27%), and alcohol (20%) (Table 3.5).

References

AIHW (Australian Institute of Health and Welfare) (2023) *Alcohol and other drug treatment services in Australia annual report*, AIHW, Australian Government, accessed 1 March 2024.

Cannabis treatment

This section uses 2 types of analyses to better understand the treatment pathways among the longitudinal cohort of Alcohol and Other Drug Treatment National Minimum Data Set (AODTS NMDS) clients who received treatment for cannabis between 2013–14 and 2021–22, as described in 'Cannabis treatment'. These analyses (trace explorer and process analysis) describe key characteristics of clients who received treatment for cannabis and the treatment episodes provided to them, focusing on source of referral for AOD treatment, principal drug of concern (PDOC), main treatment type, and reason for cessation for AOD treatment. Process analysis was not conducted for PDOC as there was a large number of combinations of PDOC.

What is process analysis?

The following section uses process analysis to describe the common treatment pathways for clients who received treatment for cannabis between 2013–14 and 2021–22, by key characteristics such as source of referral for AOD treatment, main treatment type, and reason for cessation for AOD treatment. The analysis includes all treatment episodes provided to these clients, including clients who received one episode and those who received multiple episodes over the study period (that is, 2013–14 to 2021–22). It describes the process starting from the first treatment episode for each client, including the characteristics of any subsequent episodes provided to clients on a given path. Note clients may have received treatment prior to 1 July 2013 or after 30 June 2022.

What is trace explorer analysis?

The following section uses traces to identify the 5 most common treatment pathways among clients who received treatment for cannabis between 2013–14 and 2021–22, by key characteristics of treatment pathways, including source of referral for AOD treatment, principal drug of concern, main treatment type, and reason for cessation of AOD treatment. The traces, for example for principal drug of concern, represent sequences of treatment episodes by principal drug of concern, in the order in which clients received treatment within the study period.

The proportions of clients who followed each sequence are ranked from 1 to 5, with 1 being the most common pathway (that is, more clients followed this sequence as opposed to any other sequence of episodes). The figure shows the 5 most common trace distributions, but the cumulative proportions can be vastly different within each cohort (for example, the 'most common' pathway may represent most clients, that is, >50 % of clients or a small proportion of clients, for example, only 4% of clients, depending on the cohort). This reflects the varying complexity of patterns within each cohort: the more patterns, the more trace distributions and therefore the potential for a smaller proportion of the total client pathways to be captured by the top 5 distributions.

Cannabis treatment

Explore the key characteristics of treatment pathways, including source of referral for AOD treatment, principal drug of concern, main treatment type, and reason for cessation of AOD treatment.

- Source of referral for AOD treatment
- Principal drug of concern
- Main treatment type
- Reason for cessation of AOD treatment

References

AIHW (Australian Institute of Health and Welfare) (2023) *Alcohol and other drug treatment services in Australia annual report*, AIHW, Australian Government, accessed 1 March 2024.

Cannabis treatment

Treatment referrals aim to reduce the immediate or short-term harms of alcohol and other drug (AOD) use, as well as to engage, support, and connect people to treatment services where needed. Clients can enter or be referred to AOD treatment via numerous sources. The Alcohol and Other Drug Treatment National Minimum Data Set (AODTS NMDS) includes information about the referral source for each treatment episode, including corrections, drug diversion programs, health services, self/family, and other.

AODTS NMDS data reported annually consistently show that referrals via drug diversion programs account for a substantial proportion of treatment episodes provided to clients for their own use of cannabis (AIHW 2023). Almost half (48%) of all clients who received treatment for cannabis between 2013–14 and 2021–22 were referred via diversion at some point during the period (Table 3.6). This was higher than for clients who received treatment for other principal drugs of concern, such as alcohol (14% of episodes) or amphetamines (31%), noting that some clients may have received treatment for multiple principal drugs of concern. For more information on diversion programs, see below.

> **Referral to AOD treatment via drug diversion programs**
>
> In Australia, drug diversion treatment programs ('diversion programs') divert people who have been apprehended or sentenced for a minor drugs offence from the criminal justice system to drug treatment agencies. Diversion has several objectives, including:
>
> - Preventing negative labelling and stigma associated with criminal conduct and contact with the criminal justice system.
> - Preventing further offences by minimising a person's contact with, and progression through, the criminal justice system.
> - Reducing courts and prisons caseloads, lowering costs and delays of court processes and incarceration.
> - Reducing unnecessary social controls.
> - Providing appropriate interventions to offenders who are in need of treatment or other services.
>
> Treatment services for clients referred via diversion programs range from short-term assessment (for example, information or education sessions) to longer-term treatments (for example, counselling, withdrawal management). Two key types of diversion programs are captured in AODTS NMDS data. Police diversion occurs when an offence is first detected by a law enforcement officer. This typically applies for minor drug offences (for example, drug possession or use), often relating to cannabis. The offender may receive a caution or fine and will sometimes be required to attend mandatory drug assessment or education sessions. Court diversion occurs after a charge has been laid, usually for offences where criminal behaviour was related to drug use (for example, burglary or public order offence). Bail-based programs generally involve drug assessment and treatment, while pre– and post–sentence programs (such as drug courts) are aimed at repeat offenders and may involve more intensive treatment (AIHW 2023). States and territories have different diversion programs and policies:
>
> - New South Wales: Magistrates Early Referral into Treatment
> - Victoria: Diversion Services
> - Queensland Court Illicit Drug Diversion
> - Western Australia Court Diversion Programs
> - South Australia: Magistrates Court Treatment Intervention Court
> - Tasmania: Court Mandated Diversion and Drug Treatment Orders
> - Australian Capital Territory: Police and Court Drug Diversion Service
> - Northern Territory Youth Diversionary Program

Process analysis by episode source of referral

Process analysis describes the flow of treatment episodes provided to clients who received treatment for cannabis, by key treatment characteristics. This includes all treatment episodes provided to clients, including those who received multiple episodes over the study period. For more information, see What is process analysis?

Process analysis by source of referral indicated that referral pathways into treatment differed depending on whether clients received treatment for cannabis only or cannabis and another PDOC (Table 3.7).

Of treatment episodes provided to clients who:

- Only received treatment for cannabis, almost half (47%) of all clients' initial episodes involved a referral via diversion. For clients following this path through the AOD system, most treatment ceased at this point and there were no subsequent episodes (82% of initial diversion episodes).
- Received treatment for cannabis and another PDOC, the most common referral for a client's initial treatment episode was self/family (31%), followed by a health service (24%) or diversion (22%). For clients whose initial episodes were self/family, half (50%) of these episodes were followed by a subsequent episode with self/family as the referral source (Table 3.7).
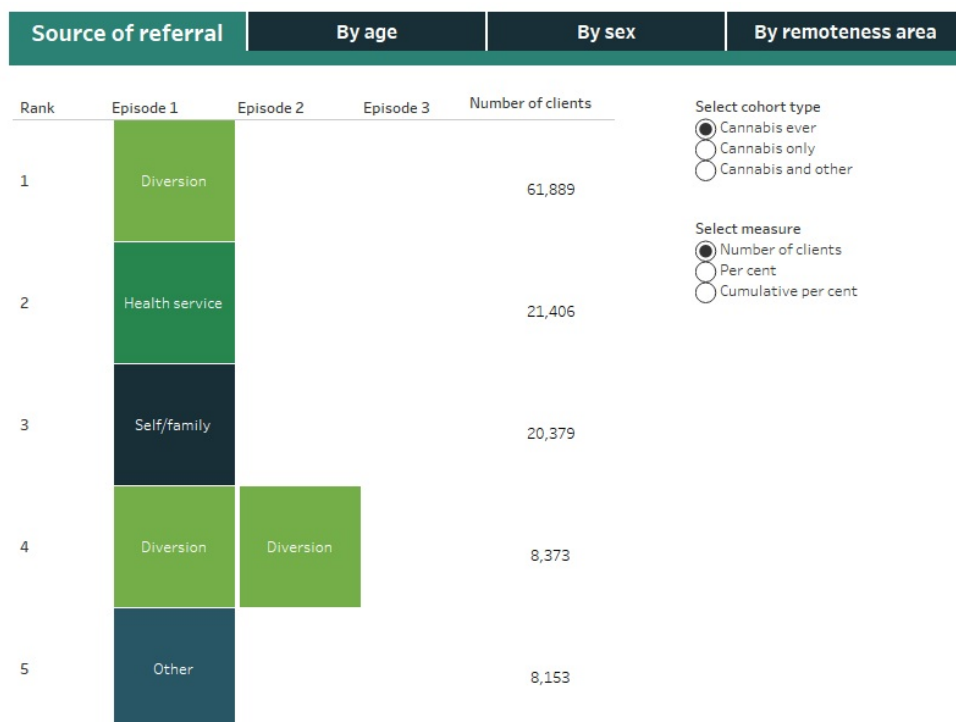
Trace analysis of referral pathways

Traces display the most common treatment pathways among clients who received treatment for cannabis, by key treatment characteristics. The traces represent sequences of treatment episodes in the order in which clients received treatment within the study period. For more information, see What is trace explorer analysis?.

Trace analysis indicated that there were around 21,100 unique sequences by referral source among clients who received treatment for cannabis between 2013–14 and 2021–22. The most common sequences varied by cohort (Figure 11; Table 3.8).

Figure 11: Treatment pathways for clients who received treatment for cannabis, by referral source, cohort, and age group, sex, or remoteness area, 2013-14 to 2021-22

This figure shows traces for AODTS clients who received treatment for cannabis from 2013-14 to 2021-22 by source of referral. The 5 most common pathways are broken down by age, sex, and remoteness. A toggle is available to view the traces by the different cohorts, "Cannabis ever", "Cannabis only", and "Cannabis and other" and different measures, "Number of clients", "Per cent", and "Cumulative per cent".

Notes
1. Based on clients who received treatment for their own cannabis use in at least one treatment episode in at least one collection period (i.e., financial year) between 2013–14 and 2021–22.
2. Treatment episode data includes episodes for a principal drug of concern other than cannabis provided to clients who had ever received treatment for cannabis (e.g., clients who had received treatment for both cannabis and alcohol across separate episodes would have both episodes counted in these data).
Source: AODTS NMDS 2021–2022. See Table 3.8.

For clients who received treatment for cannabis only, around 2 in 5 (41%) clients received either one or 2 diversion referral episodes. This pathway was consistent across most age groups but differed by sex and remoteness area (Figure 11; Table 3.8).

- For males (44% of clients) and those living in *Remote* or *Very remote* areas (43%), the 2 most common treatment referral pathways followed the overall pattern (that is, one or 2 episodes referred by diversion).
- For females (37% of clients) and those living in *Major cities* (56%), *Inner regional* areas (52%), or *Outer regional* areas (52%), the 2 most common referral pathways involved one diversion referral episode or one from a health service.

For clients who received treatment for cannabis and another PDOC, the most common referral pathway involved 2 diversion referral episodes. However, this pathway accounted for just 1 in 30 (3.4%) clients and varied across client groups.

- The most common referral pathway for males involved 2 diversion referral episodes (3.9%), whilst for females the most common pathway was 2 episodes referred by health services (2.9%).
- The most common referral pathway for those aged 10–19 and 20–29 was 2 diversion episodes (5.5% and 3.1%, respectively), whilst for those aged 30–39 and 40–49 it was 2 episodes referred from self/family (3.0% and 3.7%, respectively), and for those aged 50 and over was 2 episodes referred from health services (4.3%).
- The most common referral pathway for those living in *Major cities* and *Inner regional* areas involved 2 diversion referral episodes (4.2% and 3.1%, respectively), while for those in *Outer regional* areas and *Remote* and *Very remote* areas the most common pathway was 2 episodes referred from self/family (3.3%) and 2 episodes referred by health services (3.3%), respectively.

References

AIHW (Australian Institute of Health and Welfare) (2023) *Alcohol and other drug treatment services in Australia annual report*, AIHW, Australian Government, accessed 1 March 2024.

Cannabis treatment

The Alcohol and Other Drug Treatment National Minimum Data Set (AODTS NMDS) includes information about the principal drug of concern (PDOC) that the client stated led them to seek treatment. Principal drugs of concern include cannabis as well as other drugs such as alcohol, amphetamines, heroin, ecstasy and cocaine. Clients can only receive treatment for one PDOC per treatment episode, but clients may also receive multiple treatment episodes for different principal drugs of concern. In this report, the criteria include clients who have received treatment only for cannabis, or for cannabis and another PDOC across multiple episodes within the study period. Process analysis was not conducted for principal drug of concern. For more information, see What is process analysis?.

Trace analysis of treatment pathways by principal drug of concern

Traces display the most common treatment pathways among clients who received treatment for cannabis, by key treatment characteristics. The traces represent sequences of treatment episodes in the order in which clients received treatment within the study period. For more information, see What is trace explorer analysis?

Among clients who received treatment for cannabis between 2013–14 and 2021–22, there were around 19,300 sequences of episodes by PDOC. Compared with clients who had only received treatment for cannabis, those who received treatment for cannabis and another PDOC had a much higher number of treatment sequences. The most common treatment pathways by PDOC varied by cannabis cohort (Figure 12; Table 3.9).

Figure 12: Treatment pathways for clients who received treatment for cannabis, by principal drug of concern, cohort, and age group, sex, or remoteness area, 2013-14 to 2021-22

This figure shows the 5 most common treatment pathways for AODTS clients who received treatment for cannabis from 2013-14 to 2021-22 by principal drug of concern, shown as sequences of treatment episodes. A toggle is available to view the pathways for different cohorts, ("Cannabis ever", "Cannabis only", and "Cannabis and other") and different measures ("Number of clients", "Per cent", and "Cumulative per cent"). The 5 most common pathways are also disaggregated by age, sex, and remoteness.

Notes
1. Based on clients who received treatment for their own cannabis use in at least one treatment episode in at least one collection period (i.e., financial year) between 2013–14 and 2021–22.
2. Treatment episode data includes episodes for a principal drug of concern other than cannabis provided to clients who had ever received treatment for cannabis (e.g., clients who had received treatment for both cannabis and alcohol across separate episodes would have both episodes counted in these data).
Source: AODTS NMDS 2021–2022. See Table 3.9.

For clients who received treatment for cannabis only, the most common treatment pathway involved one treatment episode for cannabis (54% of clients) (Figure 12; Table 3.9). This was consistent by age group, sex, and remoteness area.

For clients who had received treatment for cannabis and another PDOC, the 2 most common treatment pathways involved an initial episode for cannabis followed by a second episode for either amphetamines (5.1% of clients) or alcohol (5.0%) (Figure 12; Table 3.9). This was similar by sex but differed by age and remoteness area.

- For people aged 20–29 (10% of clients) or 30–39 (9.7%), and those living in *Major cities* (9.9%), *Inner regional* areas (11%), or *Outer regional* areas (13%), the 2 most common pathways involved an initial episode for cannabis followed by a second episode for either amphetamines or alcohol.
- For those aged 10–19 (10% of clients), 40–49 (10%), or 50 and over (13%), and those living in *Remote* and *Very remote* areas (17%), the 2 most common pathways involved either one episode for cannabis followed by a second episode for alcohol or vice versa.

References

AIHW (Australian Institute of Health and Welfare) (2023) *Alcohol and other drug treatment services in Australia annual report*, AIHW, Australian Government, accessed 1 March 2024.

Cannabis treatment

Main treatment type is the principal activity determined by the treatment provider to be necessary for the completion of the treatment plan for the client's principal drug of concern (AIHW 2023). The Alcohol and Other Drug Treatment National Minimum Data Set (AODTS NMDS) includes information on main treatment types including:

Main treatment types

- Assessment only
- Counselling
- Information and education
- Support and case management
- Other intensive treatment, including withdrawal management, rehabilitation, and pharmacotherapy
- Other, including living skills classes, outdoor therapy, and drug use reduction education and support.

Annual reporting of AODTS NMDS data indicates that counselling is typically the most common main treatment type among episodes provided to clients for their own use of cannabis, accounting for almost 1 in 2 (47%) episodes in 2021–22 (AIHW 2023).

Process analysis by episode main treatment type

Process analysis describes the flow of treatment episodes provided to clients who received treatment for cannabis, by key treatment characteristics. The analysis includes all treatment episodes provided to clients, including those who received multiple episodes over the study period. For more information, see What is process analysis?

Process analysis by main treatment type indicated that treatment pathways differed for clients who received treatment for cannabis only or cannabis and another PDOC (Table 3.10).

Of all treatment pathways provided to clients who:

- Only received treatment for cannabis, over 2 in 5 (43%) of clients' initial episodes involved counselling as the main treatment. For most clients following this path through the AOD system, the client did not receive any subsequent treatment episodes in the study period (72% of counselling episodes).
- Received treatment for cannabis and another PDOC, 2 in 5 (40%) initial episodes provided to clients involved counselling. This was similar to clients who only received treatment for cannabis, but a greater proportion of episodes were followed by a subsequent counselling episode (40%) for this cohort (Table 3.10).
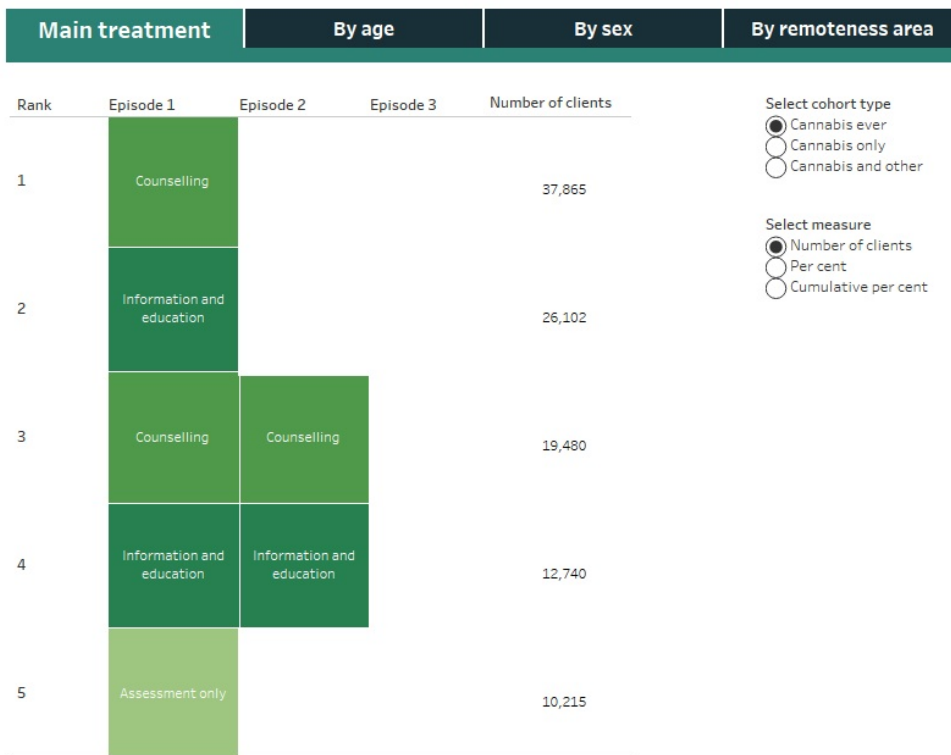
Trace analysis of pathways by main treatment type

Traces display the most common treatment pathways among clients who received treatment for cannabis, by key treatment characteristics. The traces represent sequences of treatment episodes in the order in which clients received treatment within the study period. For more information, see What is trace explorer analysis?

Trace analysis of AODTS NMDS data indicated that there were almost 27,700 unique treatment pathways by main treatment type among clients who received treatment for cannabis between 2013–14 and 2021–22. The most common treatment pathway for clients varied by cohort (Figure 13; Table 3.11).

Figure 13: Treatment pathways for clients who received treatment for cannabis, by main treatment type, cohort, and age group, sex, or remoteness area, 2013-14 to 2021-22

This figure shows traces for AODTS clients who received treatment for cannabis from 2013-14 to 2021-22 by main treatment type. The 5 most common pathways is broken down by age, sex, and remoteness. A toggle is available to view the traces by different cohorts, "Cannabis ever", "Cannabis only", and "Cannabis and other" and different measures, "Number of clients", "Per cent", and "Cumulative per cent".

Rank	Episode 1	Episode 2	Episode 3	Number of clients
	Main treatment	**By age**	**By sex**	**By remoteness area**
1	Counselling			37,865
2	Information and education			26,102
3	Counselling	Counselling		19,480
4	Information and education	Information and education		12,740
5	Assessment only			10,215

Select cohort type
- ● Cannabis ever
- ○ Cannabis only
- ○ Cannabis and other

Select measure
- ● Number of clients
- ○ Per cent
- ○ Cumulative per cent

Notes
1. Based on clients who received treatment for their own cannabis use in at least one treatment episode in at least one collection period (i.e., financial year) between 2013–14 and 2021–22.
2. Treatment episode data includes episodes for a principal drug of concern other than cannabis provided to clients who had ever received treatment for cannabis (e.g., clients who had received treatment for both cannabis and alcohol across separate episodes would have both episodes counted in these data).
Source: AODTS NMDS 2021–2022. See Table 3.11.

For clients who received treatment for cannabis only, the most common treatment pathways involved either one episode of counselling (24% of clients) or one episode of information and education (17%). This pattern was consistent by age group, sex, and remoteness area.

For clients who received treatment for cannabis and another PDOC, the most common treatment pathway involved either 2 or 3 counselling episodes, but these 2 pathways cumulatively accounted for just 1 in 10 (10%) clients. This pattern was the same by age, sex, and remoteness (Figure 13; Table 3.11).

References

AIHW (Australian Institute of Health and Welfare) (2023) *Alcohol and other drug treatment services in Australia annual report*, AIHW, Australian Government, accessed 1 March 2024.

Cannabis treatment

Clients can leave alcohol and other drug (AOD) treatment for a range of reasons. In the Alcohol and Other Drug Treatment National Minimum Data Set (AODTS NMDS), reasons for clients no longer receiving treatment from an AOD treatment service are referred to as the 'reason for cessation' and include:

Expected/planned completion	Ended due to unplanned completion	Referred to another service/change in treatment mode
• Treatment was completed as planned • Client ceased to participate at expiation or by mutual agreement	• Ceased to participate against advice • Ceased without notice • Ceased due to non-compliance	• Change in main treatment type, delivery setting or principal drug of concern • Client was transferred to another service provider

Annual reporting of the AODTS NMDS indicates that most treatment episodes provided to clients for cannabis end with an expected/planned completion, accounting for almost 2 in 3 (62%) episodes in 2021–22 (AIHW 2023).

Process analysis by episode reason for cessation

Process analysis describes the flow of treatment episodes provided to clients who received treatment for cannabis, by key treatment characteristics. The analysis includes all treatment episodes provided to clients, including those who received multiple episodes over the study period. For more information, see What is process analysis?

Process analysis by reason for cessation (leaving treatment) indicated that treatment pathways differed for clients who received treatment for cannabis only compared with those who received treatment for cannabis and another PDOC (Table 3.12).

Of treatment episodes provided to clients who:

- Only received treatment for cannabis, 3 in 4 initial treatment episodes (75%) involved an expected/planned completion. For most of these planned completion episodes, no subsequent treatment episodes were received in the study period (71% of episodes).
- Received treatment for cannabis and another PDOC, 3 in 5 initial episodes (59%) involved an expected/planned completion and 1 in 5 (21%) ended with an unplanned completion. Over half (55%) of all initial episodes that ended as planned were followed by a subsequent treatment with expected/planned completion (Table 3.12).

Trace analysis of pathways by reason for cessation

Traces display the most common treatment pathways among clients who received treatment for cannabis, by key treatment characteristics. The traces represent sequences of treatment episodes in the order in which clients received treatment within the study period. For more information, see What is trace explorer analysis?

Trace analysis indicated that there were around 17,000 client pathways characterised by varying patterns of reasons for leaving treatment among clients who had received treatment for cannabis from 2013–14 to 2021–22. Treatment pathways varied by cohort (Figure 14; Table 3.13).

Figure 14: Treatment pathways for clients who received treatment for cannabis, by reason for cessation, cohort, and age group, sex, or remoteness area, 2013–14 to 2021–22

This figure shows traces for AODTS clients who received treatment for cannabis from 2013-14 to 2021-22 by reason for cessation of episode. The 5 most common pathways are broken down by age, sex, and remoteness. A toggle is available to view the traces by different cohorts, "Cannabis ever", "Cannabis only", and "Cannabis and other" and different measures, "Number of clients", "Per cent", and "Cumulative per cent".

Rank	Episode 1	Episode 2	Episode 3	Episode 4	Number of clients
1	Expected/planned completion				91,421
2	Expected/planned completion	Expected/planned completion			20,116
3	Ended due to unplanned completion				18,226
4	Expected/planned completion	Expected/planned completion	Expected/planned completion		5,568
5	Expected/planned completion	Ended due to unplanned completion			5,500

Select cohort type
- ● Cannabis ever
- ○ Cannabis only
- ○ Cannabis and other

Select measure
- ● Number of clients
- ○ Per cent
- ○ Cumulative per cent

Notes
1. Based on clients who received treatment for their own cannabis use in at least one treatment episode in at least one collection period (i.e., financial year) between 2013–14 and 2021–22.
2. Treatment episode data includes episodes for a principal drug of concern other than cannabis provided to clients who had ever received treatment for cannabis (e.g., clients who had received treatment for both cannabis and alcohol across separate episodes would have both episodes counted in these data).
Source: AODTS NMDS 2021–2022. See Table 3.13.

For clients who only received treatment for cannabis, almost 2 in 3 (62%) treatment pathways involved either one or 2 episodes ending with a planned completion (Figure 14; Table 3.13). This was similar by age group and sex but differed by remoteness area. For people living in *Remote and very remote* areas, the most common treatment pathways reflected the overall pattern (that is, one or 2 episodes ended as expected/planned completions), while for those living in *Major cities* (72% of clients), *Inner regional* areas (69%) and *Outer regional* areas (70%) ended with either, one episode as an expected/planned completion or one as an unplanned completion.

For those who received treatment for cannabis and another PDOC, the most common pathways for leaving treatment involved either 2 or 3 episodes ending with expected/planned completion, accounting for only 15% of clients. This pattern was similar by age group and sex but differed by remoteness area. For those living in *Major cities, Inner regional* areas, and *Remote* and *Very remote* areas, the most common pathways were consistent with the overall pattern (that is, 2 or 3 episodes ending with an expected/ planned completion). For those living in *Outer regional* areas, the most common pathways were either 2 episodes ending with expected/planned completions (10% of clients), or one episode with an expected/ planned completion followed by a second episode ending due to unplanned completion (4.7%) (Figure 14; Table 3.13).

References

AIHW (Australian Institute of Health and Welfare) (2023) *Alcohol and other drug treatment services in Australia annual report*, AIHW, Australian Government, accessed 1 March 2024.

Conclusions

This report draws together data from multiple sources to examine cannabis availability, use and treatment in Australia over time. A considerable strength of this work is the use of multiple rich data sets to provide a more holistic understanding of the characteristics of people who use cannabis and those who receive treatment for cannabis.

There are several limitations to this study that should be considered when interpreting the results. The data sources examined are not comparable as they use different methodologies to capture information about cannabis, and results from each data source may not necessarily be indicative of the whole population. The patterns presented across data sources here are not exhaustive and are intended to indicate where further research and enhancements to data could help improve the understanding of cannabis availability, use and treatment in Australia. Additional data sources on cannabis use and related harms are available, including the:

- National Ambulance Surveillance System for Alcohol and Other Drug Misuse and Overdose
- National Hospital Morbidity Database
- National Mortality Database
- National Prisoner Health Data collection.

Further information on the scope and limitations of the individual data sources included in this report are outlined in Technical notes.

Future directions

This report highlights a need for further work to identify people who may be at increased risk of harms related to cannabis use, and develop tailored interventions targeted to meeting the holistic needs of these people. In particular, there is a need for further research to better understand the complex relationship between cannabis use, mental health, and co-occurring substance use to identify optimal treatments. There is also a need to monitor changes in cannabis use and treatment in the context of increasing access to medical cannabis and other policy changes (for example, decriminalisation of cannabis possession for personal use in the Australian Capital Territory).

In the context of the administrative treatment services data (AODTS NMDS), further work may seek to incorporate global measurement standards for treatment outcomes (such as the patient-centred outcome measures provided by the International Consortium for Health Outcomes Measurement) to improve service delivery. This work would allow for a more nuanced understanding of the treatment goals and individual needs of clients seeking support for cannabis use.

Technical notes

Data coverage and quality

Alcohol and Other Drug Treatment Services National Minimum Data Set

The Alcohol and Other Drug Treatment National Minimum Data Set (AODTS NMDS) collection covers publicly funded alcohol and other drug (AOD) treatment services but does not capture all treatment episodes provided to clients in Australia. For example, the AODTS NMDS accounted for an estimated 10% of episodes and 20–30% of individual clients who received AOD treatment in Australia in 2013–14 (Ritter et al. 2014).

For the purposes of this report, a range of variables from the AODTS NMDS relating to the cohort receiving treatment for cannabis were examined. These variables have certain limitations and caveats, as outlined in Table 3.

Table 3: Variables included in the AODTS NMDS analysis

Variable	Description	Analysis criteria
Client type	The status of a person in terms of whether the treatment episode concerns their own drug use or that of another person.	Own drug use. Excludes clients receiving treatment for another person's drug use.
Client age	The age of the client, as described by them.	Calculated as age at commencement of first treatment episode within the study period (that is, the first time the client received treatment between 2013–14 and 2021–22). Excludes clients aged <10 years or >100 and records with missing age.
Client sex	The sex of the client, as described by them.	Excludes 'Another term' and records with missing sex.
Client postcode	The postal code of the client's last known home address at the start of their treatment episode.	Calculated as postcode at commencement of first treatment episode within the study period (that is, the first time the client received treatment between 2013–14 and 2021–22). Excludes records with an invalid postcode. The postcode data item was first included in the AODTS NMDS for the 2013–14 collection period and has varied greatly in its quality. Postcode data may be of poor quality for certain clients, such as those with no fixed address. Postcodes were not developed for the purpose of geospatial analysis but can be converted to various ASGS ABS and non-ABS structures to produce overall fit for purpose geography.
Client remoteness area	The remoteness area of the client's last known address.	Calculated as remoteness area at commencement of first treatment episode within the study period. Remoteness areas were computed by converting client postcodes to the Australian Statistical Geography Standard (ASGS) Remoteness Structure 2021, using the ABS's Postcode 2022 to Remoteness Area 2021 correspondence file. This correspondence is listed as a 'good' conversion, indicating that it is expected to convert data to a high degree of accuracy and that the converted data will reflect the actual characteristics of the geographic areas involved.
Principal drug of concern	The main substance that the client stated led them to seek treatment.	Coded using the Australian Standard Classification of Drugs of Concern (ASCDC) 2011. For this report, cannabis includes codes 7000–7999.
Episode main treatment type	The principal activity that is determined at assessment by the treatment provider to treat the client's alcohol or other drug use for the principal drug of concern.	No exclusions.
Episode reason for cessation	The reason the client ceased to receive a treatment episode.	Excludes records with missing or invalid reason for cessation. This variable has several limitations; see AODTS NMDS coverage and data quality for more information.

Episode referral source	The source from which the client was transferred or referred to the treatment service, including diversion.	No exclusions.

For more information on scope, coverage and data quality, see the AODTS NMDS Data Quality Statement and the AIHW's Metadata Online Registry (METEOR). For more information on episode and client counts, see Key terminology and glossary.

Australian Secondary Students' Alcohol and Drug survey

The Australian Secondary Students' Alcohol and Drug (ASSAD) survey is the largest national survey of alcohol and other drug use among Australian adolescents, aged 12–17. It is conducted every three years and has been running since 1984. The survey includes questions about secondary school students' use of tobacco, e-cigarettes, alcohol, over-the-counter drugs (used for non-medical reasons) and other drugs (including cannabis). The ASSAD survey is administered without the involvement of parents on school premises. This methodology has been shown to result in higher, and potentially more valid, estimates of health risk behaviours such as drug use, as compared with surveys administered in the home (Brener et al. 2006).

The 2022–2023 iteration of the survey was conducted between March 2022 and July 2023 via an online self-report questionnaire. The data represent 10,314 eligible responses from students in Years 7 to 12 from 83 schools across Australia, with a school response rate of 6%.

For more information, see the full ASSAD report.

Drug Use Monitoring in Australia program

The Drug Use Monitoring in Australia (DUMA) program is an illicit drug monitoring program that contains information on police detainees across 5 locations throughout Australia annually. The DUMA program has two core components:

- A self-report survey of police detainees, including a range of criminal justice, demographic, drug use, drug market participation and offending information.
- Urinalysis, in which participants can choose to provide a urine sample that is tested at an independent laboratory to detect the presence of legal and illegal drugs. Urinalysis provides an objective method to corroborate self-reported drug use. Not all survey participants agree to provide a urine sample when requested, although the compliance rate is high (75% in 2021) (AIC 2022).

Ecstasy and Related Drugs Reporting System

The Ecstasy and Related Drugs Reporting System (EDRS) is a national monitoring system for ecstasy and related drug use, markets and harms in Australia. The EDRS comprises information from interviews with people who regularly use ecstasy and related drugs, and other routinely collected indicator data. The EDRS includes information on the use, price, purity and availability of 'party' drugs including ecstasy, methamphetamine, cocaine, LSD, ketamine, new psychoactive substances, and GHB. EDRS interviews have been conducted annually across all Australian capital cities since 2003. The EDRS is not representative of drug use and harms among all groups of people who use drugs.

The 2023 EDRS surveys were conducted between April and July 2023, either face-to-face or via phone or videoconference. The data represent 708 participants in 2023, reflecting predetermined sample size quotas. All interviews conducted prior to 2020 were face-to-face, and this change in methodology should be considered when comparing data across years. Prior to 2020, eligible participants were aged 17 and over (or 16 and over for Perth). In 2020, eligibility criteria were amended to include people aged 18 and over.

For more information, see the Ecstasy and Related Drugs Reporting System project site.

Illicit Drug Data Report

The Illicit Drug Data Report (IDDR) brings together data from a variety of sources to provide an overview of illegal drug markets in Australia. Data are provided annually by law enforcement agencies, forensic services, health departments and academic institutions, including information on arrests, detections, seizures, purity, and price.

For more information, see the Illicit Drug Data Report.

Illicit Drug Reporting System

The Illicit Drug Reporting System (IDRS) is a national monitoring system that aims to identify emerging trends in illegal drug markets in Australia. The IDRS comprises information from interviews with people who regularly inject illegal drugs and other routinely collected indicator data. The IDRS includes information on the use, price, purity and availability of heroin, methamphetamine, cocaine, cannabis, and other illegal drugs. IDRS interviews have been conducted annually across all Australian capital cities since 2000. The IDRS is not representative of drug use and harms among all groups of people

The 2023 IDRS surveys were conducted between June and July 2023, either face-to-face or via phone or videoconference. The data represent 820 participants in 2023, reflecting predetermined sample size quotas. All interviews conducted prior to 2020 were face-to-face, and this change in methodology should be considered when comparing data across years. Prior to 2020, eligible participants were aged 17 and over (or 16 and over for Perth). In 2020, eligibility criteria were amended to include people aged 18 and over.

For more information, see the Illicit Drug Reporting System project site.

National Drug Strategy Household Survey

The National Drug Strategy Household Survey (NDSHS) collects information on consumption of and attitudes towards alcohol, tobacco, and other drugs among people aged 14 and over from all states and territories in Australia. The survey has been conducted every 2 to 3 years since 1985, with the 2022-2023 NDSHS survey being the 14th survey in the series.

The 2022-2023 NDSHS fieldwork was conducted in two stages (20 July to 18 December 2022 and 20 March to 31 May 2023) across all states and territories in Australia. Participants could complete the survey via a paper form, an online form, or a telephone interview. The data represent 21,663 eligible responses.

Medical use and recent use of cannabis

In the NDSHS, marijuana/cannabis is not considered a pharmaceutical and is not grouped with non-medical use of other drugs such as opioids and steroids. Two new questions were included regarding medical use of cannabis in 2019:

- Have you used Marijuana/Cannabis for medical purposes in the last 12 months?
- Was the medical Marijuana/Cannabis prescribed by a doctor?

People that reported only using marijuana/cannabis for medical purposes in the previous 12 months, and only using it when it was prescribed by a doctor, are not included in recent use results. They are included in lifetime use results, as the questions regarding medical use of cannabis only refer to the previous 12 months. All other respondents that indicated using marijuana/cannabis for any reason in the previous 12 months are included in recent use results.

Key quality issues to consider for the 2022-2023 collection include:

- Reported findings are based on self-reported data and are not empirically verified by blood tests or other screening measures.
- It is known from past studies of alcohol and tobacco consumption that respondents tend to underestimate actual consumption levels. Estimates of illicit drug use and related behaviours are also likely to be underestimates of actual use.
- The exclusion of persons from non-private dwellings, institutional settings, homeless people, and the difficulty in reaching marginalised persons are likely to have affected estimates.
- The response rate for the 2022-2023 survey was 43.9%, lower than previous surveys. Given the nature of the topics in this survey, some non-response bias is expected, but this bias has not been measured.
- Both sampling and non-sampling errors should be considered when interpreting results.
- The 2022-2023 survey used a multi-mode completion methodology—respondents could choose to complete the survey via a paper form, an online form or via a telephone interview. This was the third time an online form has been used in the survey series. Changes in mode may have some impact on responses, and users should exercise some degree of caution when comparing data over time.
- 2022-2023 NDSHS results are disaggregated by the question 'How do you describe your gender' rather than the previous question 'What is your sex'. In tables that disaggregate results by gender, results for 2019 and earlier years are disaggregated by the previous sex question. Caution is advised when considering timeseries comparisons.
- The time-series for methamphetamine and amphetamine was broken in 2022-2023, as the questions used in 2019 and earlier (meth/amphetamine) also included non-medical use of pharmaceutical amphetamines. Data collected in 2022-2023 are not considered comparable to previous years.

For more information, see the full 2022-2023 NDSHS Technical notes.

National Wastewater Drug Monitoring Program

The National Wastewater Drug Monitoring Program (NWDMP) measures the presence of substances in wastewater to create population-weighted average consumption estimates for legal and illegal drugs. Wastewater analysis involves collecting samples from wastewater treatment plants and analysing these for the presence of compounds or metabolites excreted following consumption of specific drugs. A back-calculation factor is applied to determine the amount of each substance used among the population over a given collection period.

The NWDMP has been operating since 2016, with cannabis included for the first time in August 2018. The main psychoactive compound in cannabis (tetrahydrocannabinol or THC) is metabolised and excreted as 11-nor-9-carboxy-tetrahydrocannabinol (THC-COOH). Separate samples are collected at wastewater treatment plants across Australia each day and preserved for THC-COOH analysis. Cannabis results are expressed as daily doses of THC per 1,000 people with a dose amount of 8 mg, representing 210-450mg of dried cannabis containing 15% THC (Sharma et al. 2012).

Wastewater analysis is non-invasive and, because it is carried out on a population-scale level, cannot identify individual people. It also has certain limitations. Firstly, results for a given collection period can be influenced by factors such as factors such as uncertainties in population estimates in an area over a 24-hour period and variation in excretion rates (that is, some people may metabolise a drug faster than others). Sewer design and collection methods may also influence the levels of THC-COOH detected in wastewater, and spatial comparisons should be made with caution. NWDMP data also cannot differentiate between medical and non-medical cannabis use.

Fifty-five wastewater treatment sites participated nationally in the April 2023 collection, covering 55% of the Australian population (approximately 14 million people). This included 20 sites located in capital cities and 35 in regional locations.

For more information, see the National Wastewater Drug Monitoring Program reports.

Analysis of AODTS NMDS clients who received treatment for cannabis between 2013-14 and 2021-22

This section refers to the methodology used to describe the cohort of clients described in Cannabis treatment.

How cannabis clients and treatment episodes were counted

The SLK-581 variable was used to identify unique clients who had received at least one closed treatment episode for cannabis as the principal drug of concern (PDOC) between 2013-14 and 2021-22. Clients were excluded if they:

- Did not receive treatment for their own drug use.
- Did not have a valid SLK-581.
- Had not received at least one treatment episode for cannabis as the principal drug of concern between 1 July 2013 and 30 June 2022. Clients may have received treatment before 1 July 2013, and/or continued to receive treatment beyond 30 June 2022. Services accessed in these periods are outside the scope of this report. Data from 2012–13 was excluded from analysis due to data quality issues with SLK information for this year, which was a pilot year.

This report includes all treatment episodes provided to clients who ever received treatment for cannabis between 2013–14 and 2021-22. As this analysis focuses on the client, this includes those episodes where the client received treatment for a PDOC other than cannabis. For example, if a client received 4 treatment episodes and only one was for cannabis, all 4 episodes were included in the analysis even though 3 were not for cannabis. This differs from the annual AODTS NMDS reporting approach, where cannabis treatment episodes are counted as the number of episodes in which the principal drug of concern was listed as cannabis and the number of clients receiving treatment for cannabis is derived from their first treatment episode.

The total number of clients reported here is lower than the sum of clients in the AODTS NMDS annual report, which counts clients with a unique valid SLK only within each financial year rather than only once across the entire period (2013–14 to 2021-22), as done here. Conversely, the number of treatment episodes reported is higher than in annual AODTS NMDS reporting methodology, as it includes multiple treatment episodes for non-cannabis principal drugs of concern (for example, alcohol) that were provided to clients who also received treatment for cannabis as the PDOC.

Cannabis clients referred via drug diversion programs

The analysis includes a section comparing characteristics of clients within the cannabis cohort based on whether they had ever been referred to treatment via a drug diversion program. To explore these sub-groups, clients were flagged to indicate those who received treatment for cannabis as the PDOC and who received at least one closed treatment episode referred via police or court diversion in at least one collection period between 2013-14 and 2021-22. Clients were classified as those who had:

- only ever been referred to treatment via police or court diversion ('Diversion only')
- been referred to treatment via diversion and at least one other treatment episode with a non-diversion referral source (for example, self/family, health service) ('Diversion and other')
- never been referred to treatment via diversion ('Diversion never').

Sensitivity analysis of diversion referrals by state and territory

States and territories take different approaches to treatment, including varying policies and practices relating to drug diversion programs. Demographic differences between clients who had ever versus never been referred via diversion may therefore be partially explained by other factors, including the state or territory where the client resided. For example, if clients receiving treatment for cannabis use in one state tend to be younger and that state also has a high number of clients referred via diversion, there may appear to be a relationship between age and being referred via diversion that is purely caused by jurisdictional differences. See Table 4 for an overview of the proportion of clients referred via diversion and non-diversion referral sources by state/ territory. See also Table T1.1 to see this information by cannabis cohort.

To overcome this issue, a logistic regression analysis was conducted to examine factors associated with being referred via diversion, within the cohort of clients who had ever received treatment for cannabis between 2013-14 and 2021-22. This allowed us to determine whether differences between the two cohorts (that is, clients referred to diversion ever versus never) were still apparent after controlling for the effects of state/territory. This approach was based on previous logistic regression modelling undertaken by the AIHW using the AODTS NMDS dataset (AIHW 2021; AIHW 2023).

Table 4: Clients who received treatment for cannabis between 2013-14 and 2021-21, by diversion referral status and state/territory

State/territory	Diversion only	Diversion & non-diversion	Diversion never
New South Wales	6.6	13.3	80.1
Victoria	4.9	21.6	73.6
Queensland	55.0	13.5	31.5
Western Australia	41.1	15.9	43.0

South Australia	35.6	12.9	51.5
Tasmania	17.9	8.7	73.4
Australian Capital Territory	13.6	22.3	64.1
Northern Territory	5.6	9.1	85.4
Total	**32.4**	**15.2**	**52.4**

Source: AODTS NMDS 2021–22. See table T1.1.

Note: Percentage distributions may not sum to 100 due to rounding.

Results of the logistic regression indicated that, after controlling for state/territory, the differences between clients by diversion referral status generally aligned with the results from our primary analysis (that is, without controlling for state/territory). For example, clients aged 10–29 years were more likely than those aged 30–39 to be referred via diversion, and males were more likely than females to be referred via diversion. Only differences that were statistically significant after controlling for state/territory in the logistic regression model are described in this report, to prevent differences in states or territories from confounding the results.

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Notes

Acknowledgements

Ammendments

29 April 2024 – The phrasing of NDSHS daily cannabis use statistics has been updated to refer to the proportion of people aged 14 and over who had recently used cannabis, rather than the proportion of people aged 14 and over in Australia. This change impacts the 'Cannabis use' section, report summary and 'About' page.

Data

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