

Teacher Notes

INTRODUCTION

The information contained in this section has been compiled for teachers and provides information about drugs that will help to support the delivery of activities in this resource. This information aims to increase teachers' knowledge and understanding of drug use and the context for drug using behaviour, as well as acknowledge the complexity of the issues that may impact on drug using behaviour.

What is a drug?

A drug is any substance, with the exception of food and water, which changes the way the body or mind functions (WHO, n.d.).

Drugs may be legal (eg alcohol, caffeine and tobacco) or illegal (eg cannabis, ecstasy, cocaine and heroin).

What is a psychoactive drug?

Psychoactive drugs affect the Central Nervous System (CNS) and alter a person's mood, thinking and behaviour. Psychoactive drugs may be divided into four categories:

- **Depressants:** Drugs that decrease alertness by slowing down the activity of the CNS (eg heroin, alcohol and analgesics).
- **Stimulants:** Drugs that increase the body's state of arousal by increasing the activity of the brain (eg caffeine, nicotine and amphetamines).
- **Hallucinogens:** Drugs that alter perception and can cause hallucinations, such as seeing or hearing something that is not there (eg LSD and 'magic mushrooms').
- **Multi-action:** Some drugs fall into this category as they may have properties of more than one of the above categories (eg cannabis has depressive, hallucinogenic and some stimulant properties).

New Psychoactive Substances (NPS)

The term 'synthetic drugs' and 'emerging psychoactive substances' is confusing since many traditional drugs such as MDMA, LSD and methamphetamine, are also synthetic. These drugs are made using substances such as 25B-NBOMe and 25I-NBOMe. These drugs are usually extremely cheap to buy which has encouraged some young people to use them. They are usually taken by smoking, ingesting or injecting. Many younger drug users believe these drugs have a relatively low risk of addiction or overdose and are harmless compared with other drugs such as methamphetamine. Some believe that because they look like pills that they are produced in a sanitary location and under regulations. The concern is the content of these substances is unknown.

Australian School Students Alcohol and Drug Survey

Every 3 years, school students in Western Australia are surveyed to find out about their drug use in the Australian School Students Alcohol and Drug Survey (ASSAD).

Students are asked about how often they consume alcohol, tobacco, and other illicit and licit drugs. Students are also asked about how much they use, how they use and their attitudes to alcohol and other drug use. This survey has been collected since 1984, with additional drug related questions added since 1996. The most recent survey conducted in 2014

included 3,305 young people aged from 12 to 17 years from randomly selected public and private schools across the State.



Statistics do change. To access the most current drug statistics, refer to the ASSAD survey data which is currently located on the Drug and Alcohol Office website www.dao.wa.gov.au



Please note, the ASSAD data may move to the Mental Health Commission's website www.mentalhealth.wa.gov.au

Normative education

Students will often overestimate the number of young people their age who are using legal and illegal drugs. It is therefore important to present students with statistical evidence to dispel their perception and acknowledge that they are actually part of the majority of young people who do not use alcohol or drugs. The *Challenges and Choices* program does this through a range of activities and discussions.

Drug terminology

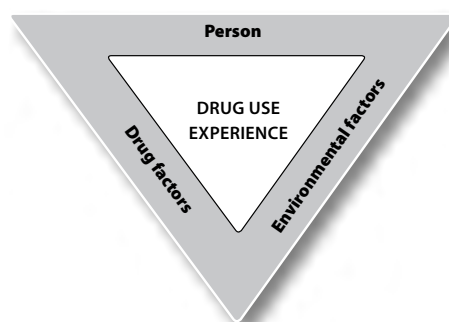
It is not considered appropriate to use the terms 'drug abuse' or 'drug misuse' as they are too subjective ie what you may consider to be acceptable may well be determined abuse by another person. The World Health Organisation (1982) recommends the following terms:

- **Unsanctioned use** where use is not approved by a community (eg alcohol use in a Muslim community).
- **Hazardous use** where there is a probability that the use will result in harm of some description (eg smoking and the increased likelihood of health problems in the future).
- **Dysfunctional use** where the drug use is causing or contributing towards social or psychological problems (eg relationship problems or interfering with school attendance).
- **Harmful use** where the drug use is known to be causing physical or mental health problems (eg consuming alcohol at a level that is compromising liver function).

Model for understanding drug use

The Interaction Model (Zinberg, 1984) which is derived from Social Learning Theory explains that the way a person (individual) experiences alcohol or other drugs does not depend only on the drug itself or factors to do with the drug. The drug use experience will vary depending on:

1. The **drug factors** eg what it does (effect), how much (dose), how often used.
2. The **individual factors** eg gender, age, body size, food in stomach, personal metabolism, state of general health and wellbeing, attitudes, values, previous drug using experiences, mood, expectations, mental health, personality.



3. The **factors in the environment** eg when (time of day), where (place used), who with, how much, availability, combination of drugs, culture, family, laws.

School drug education programs should use an approach that aims to reduce the harms from alcohol and other drug use (ie harm minimisation). For example, a female may have drunk alcohol previously but when placed in an environment such as the beach at night and with others she doesn't know, the level of potential risk for her has increased. The discussion with students here would be – What could the female in this situation have done to reduce the potential harms?

Four Ls Model

This model describes a person's life and divides it into the four Ls – Liver, Livelihood, Lover and Law. It is a useful model when working with students to identify the level of possible harm arising from their drug use.



Liver – physical, psychological and emotional health problems



Livelihood – work, school, money, recreation, lifestyle problems



Lover – relationships with partners, family, friends, peers



Law – legal problems such as fines, convictions, loss of driver's licence

Alcohol

What is alcohol?

Alcohol is a by-product of the process known as fermentation whereby yeast reacts with the sugar contained in fruits, vegetables and grains to produce alcohol and carbon dioxide. It slows down the CNS, slowing the user's reaction time and coordination and is thus classified as a depressant.

Prevalence of alcohol use

Refer to the ASSAD survey data for the latest prevalence statistics.



Drug and Alcohol Office website
www.dao.wa.gov.au

Mental Health Commission's website
www.mentalhealth.wa.gov.au

Death, disease and other costs

Alcohol use is second only to tobacco as the leading preventable cause of death. Hospitalisation and excessive consumption is associated with significant levels of harm and increased risk for a multitude of physical diseases including forms of cancer, liver cirrhosis, cardiovascular disease and psychiatric problems.

Problems related to alcohol use can be defined as either short term or long term. While long-term effects can be discussed, the possible immediate and short-term problems such as nausea, slurred speech, short term memory loss, poor coordination and unconsciousness are most appropriate for school-aged students.

It used to be thought that the teenage brain was the same as an adult brain; that it had already reached full development. It is now known that from 12 to around 20 years, through a process called frontalisation, that the brain is growing and forming all the critical parts it needs for learning, memory, and planning.

Alcohol has the potential to disrupt this crucial window of development leading to learning difficulties, memory impairment and emotional problems like depression and anxiety.

Most of the alcohol-related problems in our community are not caused by people dependent on alcohol but by those who occasionally drink excessive amounts of alcohol. The use of alcohol costs the Australian community more than \$15 billion a year in terms of healthcare, road accidents, labour in the workforce, crime and resources used in prevention and treatment.

Foetal Alcohol Syndrome

During pregnancy, the alcohol that a woman drinks passes through the placenta into the baby's blood stream. This can cause problems such as miscarriage, stillbirth and long term developmental problems or Foetal Alcohol Disorder (FAD).

Foetal Alcohol Spectrum Disorder (FASD) describes the range of effects that can occur in a baby who has been exposed to alcohol in their mother's womb. These can include: low birth weight; small head circumference; failure to thrive; developmental delay; organ dysfunction; facial abnormalities,

including smaller eye openings, flattened cheekbones, and indistinct philtrum (an underdeveloped groove between the nose and the upper lip); epilepsy; poor coordination/ fine motor skills; poor socialisation skills, such as difficulty building and maintaining friendships and relating to groups; lack of imagination or curiosity; learning difficulties, including poor memory, inability to understand concepts such as time and money, poor language comprehension, poor problem-solving skills; behavioural problems, including hyperactivity, inability to concentrate, social withdrawal, stubbornness, impulsiveness, and anxiety.

FASD is often referred to as the 'invisible disability' as it often goes undetected or is not diagnosed due to other factors such as genetic abnormalities. FASD can only be diagnosed by a specialist medical practitioner.



More information about FASD is available at www.nofasd.org.au

The new Australian Guidelines to Reduce Health Risks from Drinking Alcohol

In 2009 the National Health and Medical Research Council (NHMRC) developed the *Australian Guidelines to Reduce Health Risks from Drinking Alcohol* so that adults could make more informed decisions about alcohol consumption.

- **Guideline 1** For healthy men and women, drinking no more than two standard drinks on average on any day reduces the lifetime risk of harm from alcohol-related disease or injury (sometimes called long term harms).
- **Guideline 2** For healthy men and women, drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion (sometimes called short term harms).
- **Guideline 3** For children and young people under 18 years of age, not drinking alcohol is the safest option. Parents and carers should be advised that children under 15 years of age are at the greatest risk of harm from drinking and that for this age group, not drinking is especially important.
- **Guideline 4** For women who are pregnant or planning a pregnancy, not drinking is the safest option. For women who are breastfeeding, not drinking is the safest option.

How alcohol education is taught is important

Early adolescence has been identified as a critical inoculation period in students' behavioural development when the intervention effects of alcohol education are most likely to be optimised. It is at this age that most students will have experienced some exposure to alcohol.

It is important to stress to students that 31.5% of 12-17 year olds have never used alcohol (MHC, 2016a), and that most adults use alcohol sensibly and safely.

Help students to develop negative attitudes towards harmful alcohol use or binge drinking and promote Guideline 3 of the Australian Guidelines (see above) that recommends that no alcohol is the safest option for those under 18 years of age.

Teach students how to cope socially and emotionally and develop strategies to resist peer influences and internal pressure to engage in hazardous use of alcohol.

Engage parents and families in school-based alcohol education programs as they can have a strong influence on young people's use of alcohol, both positively and negatively.

Amphetamines

What are amphetamines?

Amphetamines are a group of drugs commonly referred to as 'speed' as they speed up or stimulate the activity of certain chemicals in the brain. Common street names include: MDA, goey, oxblood, uppers, dex, dexies, crystal meth, base, and ice. Dexamphetamine and methamphetamine are the most common forms of amphetamine available in Australia.

Amphetamines bought on the street are usually supplied as white or yellow powder, tablets or as liquid in capsules. They can be swallowed, injected, smoked or inhaled (snorted).

Prevalence of amphetamine use

Refer to the ASSAD survey data for the latest prevalence statistics.



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Death, disease and other costs

The immediate effects of amphetamine can last from two to five hours. The effects can include: increased alertness, confidence and energy; hyperactivity and talkativeness; reduced appetite; inability to sleep; enlarged pupils; anxiety; irritability; suspiciousness; panic attacks; or a threatening manner. Sometimes users can experience a residual 'hangover' which can last from two to 26 hours.

The continued use of amphetamines is likely to cause health problems including: malnutrition, violence, hallucinations, panic attacks, periods of psychosis, reduced resistance to infection, or high blood pressure which can lead to stroke.

Analgesics, prescription and over-the-counter (OTC) medications

What are analgesics?

Analgesics, or pain killers, are medicines which relieve pain. Analgesics are known by their chemical name and also by a brand name, and include: aspirin (eg Disprin®, Aspro Clear®); paracetamol (eg Panadol®, Panamax®, Dymadon®, Tylenol®); ibuprofen (eg Nurofen®); and products that contain a combination such as aspirin and codeine (eg Codral Cold and Flu®); paracetamol and codeine (eg Panadeine Forte®); ibuprofen and codeine (eg Nurofen Plus®); and paracetamol, codeine and doxylamine (eg Mersyndol®). Analgesics are available in many forms including tablets, capsules, liquids, suppositories and soluble powders.

Prevalence of analgesic use

Refer to the ASSAD survey data for the latest prevalence statistics.



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Death and disease

- Most analgesics are safe to use when taken as prescribed or instructed by a doctor or pharmacist, in conjunction with the manufacturer's instructions on the packaging. Some extra precautions may apply to patients with pre-existing medical conditions such as kidney failure or gastric ulcers.
- Studies have linked aspirin or aspirin containing medications during viral illnesses as a factor in the development of Reye's Syndrome. This syndrome can affect the brain and liver and has the potential to be fatal. Cases have dropped dramatically since this link was discovered and doctors have started advising against giving aspirin to children and teens.
- Aspirin may cause irritation of the gastric mucous membrane and even bleeding from the stomach. Excessive use may result in ringing in the ears, giddiness, nausea and mental aberration. Regular long-term use of aspirin may cause kidney damage and anaemia and asthma attacks.
- Paracetamol overdose can produce acute and sometimes fatal liver damage and also kidney damage. A dose of fewer than 10 tablets (25g) may be fatal.

How analgesic and over-the-counter medicine education is taught is important

Sometimes analgesics will be the best form of short term treatment of pain, but students should be encouraged to use them after they have tried alternatives to pain relief. Stress that a trusted adult is the only person who should administer these drugs.

Stress that a good way to prevent pain is to maintain a balanced diet, be active every day, participate in healthy relationships, and get sufficient rest.

Students often see analgesic use as harmless because they are influenced by advertising and their parents' and other adults' example. Find opportunities to challenge these influences.

Caffeine and energy drinks

What is caffeine?

Caffeine is a stimulant drug which in its purest form, consists of bitter-tasting crystals, and is found in many common substances such as coffee, tea, cocoa, chocolate, cola, energy drinks and bars, some prescription and over-the-counter medicines (eg No Doz) and other stimulants such as guarana.

What are energy drinks?

Energy drinks are beverages that contain varying amounts of caffeine and other substances. Energy drinks are promoted

for their positive effects on stamina, physical performance, endurance and concentration.

These drinks typically contain a mixture of:

- **Caffeine** which is usually the main active ingredient in energy drinks. Some of the popular brands have up to 160mg of caffeine in a 500ml can.
- **Guarana** is an extract from a plant that contains about twice the amount of caffeine as coffee beans.
- **Theobromine** which comes from the cacao plant and has a similar effect to caffeine. It is also found in chocolate and many other foods.
- **Theophylline** which is a drug used for the treatment of respiratory diseases and asthma, marketed under a variety of brand names. It is structurally similar to caffeine and is also naturally found in tea at very small levels.
- **Taurine** which occurs naturally in food, especially in seafood and meat, and is necessary for normal skeletal muscle functioning.
- **Ginseng** which is a substance that comes from a variety of plants and is believed to have medicinal properties, but has been found to interact with a number of prescription and herbal drugs.

Death, disease and other costs

The effects of caffeine, like those of any drug, differ from person to person depending on their age, body size and general health. Regular caffeine users may have different experiences from people who only consume caffeine products occasionally.

Caffeine is a stimulant drug so even a small amount (1-2 cups of average strength coffee) can stimulate the brain and the CNS, making a person have increased alertness, temperature, blood pressure, gastric acid secretion, and urination. These effects continue as long as caffeine remains in the blood, usually around 12 hours after consumption. Disturbing physical effects of caffeine on some people include anxiety, irritability, increased breathing and heart rates, dizziness, headaches, dehydration and frequent trips to the toilet.

Doctors recommend that children stay well under 100mg a day of caffeine, which is approximately one cola drink and a 20 g chocolate bar. Energy drinks should be avoided by children less than 15 years old due to the high levels of caffeine in these products. Caffeine is particularly harmful for young children because it can cause sleep problems, anxiety, irritability and bed wetting. There is also a danger that regular use may threaten bone mass among young children since it causes excess secretion of calcium and magnesium.

The consumption of energy drinks by pregnant and breastfeeding women as well as people with 'caffeine sensitivity' should be avoided.

Combining energy drinks with alcohol

Mixing energy drinks with alcohol or drinking alcoholic energy drinks, can mask some of the effects of the alcohol, meaning the person doesn't feel as intoxicated as they actually are, and so there is more risk of alcohol-related harm.

How caffeine education is taught is important

Students need to understand that being healthy involves maintaining a low caffeine intake. Low or no caffeine intake needs to be discussed as part of behaviours of healthy people.

Many of the caffeine products that children consume also contain high levels of sugar, so it would be appropriate to focus on this as part of a healthy diet.

It may be appropriate to focus on peer and media influence to consume energy drinks if students identify that they are regularly drinking them.

Students should be able to identify products containing caffeine and also alternative food and drinks that could be consumed instead of those that contain caffeine.

It is important to engage parents in caffeine education as many adults are not aware of the effects of caffeine and the amount of caffeine found in energy drinks.

Cannabis

What is cannabis?

'Cannabis' refers to the products from the Indian hemp plant called *Cannabis sativa*. Delta-9 tetrahydrocannabinol (THC) is the psychoactive ingredient of the plant. THC has both depressant and mild hallucinogenic effects on the CNS. A small dose can depress the CNS and produce mild euphoria, relaxation, impaired balance and coordination. Larger doses may produce hallucinogenic effects such as changes in perceptions in time, colour, distance or touch similar to mild hallucinations, and may also trigger a serious psychotic episode.

Marijuana is the most commonly used and least powerful form and is made from the dried leaves, stems and flowers of the plant. It is usually smoked in hand-rolled cigarettes often called 'joints' or in smoking implements such as pipes, bongs, hookahs and shishas.

Hashish (hash) is made from the plant's resin, which is extracted from the flowering tops and leaves of the female plant, then dried and compressed. The concentration of THC is higher than in marijuana, producing stronger effects. It is usually smoked or taken orally, in tea, cakes or cookies.

Hashish oil is a very thick, concentrated liquid which is extracted from the plant and is the most powerful form of cannabis. It can be consumed by smoking (one way this is done is by rubbing a small amount of oil onto the outside of a cigarette) or taken orally in food or drinks.

When cannabis is smoked, the effects can last for between two and four hours. When eaten, the effects may last for between four and seven hours. THC and its metabolites are highly fat-soluble. They may be stored and accumulated in the fatty tissues of the body (including the brain) from which they are gradually released over time and then cleared from the body. This means these compounds may be detectable in very small amounts in fatty tissues for more than 28 days.

Synthetic cannabinoids

Synthetic cannabinoids (or synthetic cannabis) interact in the same way with the brain and other organs as cannabinoids. These products usually contain some plant based ingredients that have been sprayed with a solution of cannabinoids.

Once considered a legal substitute for cannabis, these products, commonly known as 'legal herbal' mixtures are often labelled 'not for human consumption' and marketed as 'safe' and 'legal' drugs.

Synthetic cannabinoids keep appearing on the market and to try and stay ahead of the law, the names also change with each production. Some of the well-known products include Kronik, Voodoo, Kalma, Kaos and Mango Kush.

Are synthetic cannabinoids safe?

Synthetic cannabinoids are often classified as 'research chemicals' which means they are experimental chemicals that are not for human consumption. The plant-like mixtures that these chemicals are sprayed on are also unknown, and are usually produced in Asia eg China.

Are synthetic cannabinoids legal in WA?

Because little is known about the actual ingredients of synthetic cannabinoids and the possible health consequences, these substances are now banned in Australia. Anyone caught with these substances could be charged for possession, selling, supplying or intent to sell or supply.

Prevalence of cannabis use

Refer to the ASSAD survey data for the latest prevalence statistics.



Drug and Alcohol Office website
www.dao.wa.gov.au

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Death, disease and other costs

The acute toxicity of cannabis is very low. There are no confirmed cases of deaths from cannabis overdose in world literature. However, research shows evidence of some long-term effects in some regular cannabis users, such as:

- **Respiratory illness:** Marijuana cigarettes have more tar than tobacco, placing cannabis users at an increased risk of respiratory illness such as lung cancer and chronic bronchitis. This risk is increased because marijuana smokers often inhale deeply, and hold the smoke in the lungs longer, to increase the effects of the drug.
- **Brain function:** Concentration, memory and the ability to learn can all be reduced by regular cannabis use. These effects can last for several months after ceasing cannabis use.
- **Hormones:** Cannabis can affect hormone production. Research shows that some cannabis users have a lower sex drive and women have irregular menstrual cycles.
- **Reduced motivation:** Many regular users, especially young people, have reported that they have less energy and motivation, so that performance at work or school suffers. Usually these effects disappear gradually when cannabis use stops.

Ensure students consider other health risks of young people using cannabis such as injuries in a variety of situations; social risks such as upsetting family, friends and teachers; livelihood risks such as not being able to travel overseas or get or keep some jobs; and legal risks such as arrest, a criminal record if found possessing small amounts of cannabis on more than two occasions, and expensive fines.

How cannabis education is taught is important

Late primary and early secondary years have been identified as a crucial time to implement effective cannabis education as the number of students who have used is low and most young people have not been exposed to the possibility of using cannabis (McBride, 2002).

The available evidence-base suggests that effective drug education programs for students of this age should:

- increase student's knowledge, social skills, and refusal skills towards tobacco, alcohol and cannabis
- include scenarios relevant to students' experiences and interests
- contain highly interactive activities that engage students in problem solving and critical thinking
- provide significant coverage of content around these drugs complemented by follow up booster sessions
- position drug education within a broader health and wellbeing curriculum that focuses, amongst other things, on staying healthy, stress and coping
- respond to cultural and social needs of the school community
- engage parents where possible (McBride, 2002).

School based cannabis education provides a supportive environment in which to challenge any positive attitudes and opinions students may have about cannabis that may lead to later cannabis use. A positive attitude towards drug use is a known risk factor for future drug use.

Young people who use tobacco and alcohol have a greater chance of being offered cannabis and other illegal drugs. Cannabis education is therefore important for those students who begin early use of alcohol or tobacco as they are more 'at risk' than those students who do not. Delaying the onset of cannabis use has also been identified as a protective factor for later heavy or regular use. It is important to note, however, that cannabis is not necessarily a 'gateway' drug to other illegal drug.

Set clear ground rules about discussing teacher or student drug use experiences before commencing cannabis-related activities. Encourage students to respect a person's privacy by not using names when talking about experiences and be prepared to protectively interrupt those students who may disclose sensitive information.

Harms that may affect students as a result of other people's cannabis use are the key focus of these introductory learning experiences about cannabis; however, decision-making activities also focus on refusal and coping strategies in cannabis-related situations.

Give students many opportunities to consider when, where, how and by whom they may feel pressured to use cannabis or be harmed by others' cannabis use. Consider situations that involve both overt pressure from peers or family and also covert pressures where students put pressure on themselves to use cannabis, perhaps to please or be like friends or family.

When creating scenarios for students to practice problem predicting, decision making and coping strategies, keep in mind that research has identified that 'at a friend's place with a bong or pipe' is the most common context for cannabis use for young people.

Inform parents that the purpose of the chosen activities is to provide students with facts about the harmful effects and consequences of using cannabis so they are able to protect themselves around others who may use cannabis and also make informed decisions about cannabis use. The *Family information sheets* outline this rationale. A parent information session may also promote greater parent-child discussion about cannabis.

Cocaine

What is cocaine?

Cocaine is commonly known on the street as coke, snow, flake, dust, crystal, nose candy and white lady.

The most common ways of using cocaine is by snorting and intravenous injection. The base form of cocaine which is achieved by the chemical activation of the hydrochloride form vaporises at low temperature and can be smoked. This form of cocaine is commonly known as crack (from the cracking sound it makes when it is heated).

Prevalence of cocaine use

Refer to the ASSAD survey data for the latest prevalence statistics.



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Mental Health Commission's website
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Death, disease and other costs

The effects of smaller doses may include an increase in heart rate, blood pressure, body temperature or confidence and diminished fatigue. The effects of larger doses may include: anxiety, insomnia, paranoia and persecutory fears. The long term effects may include: sexual dysfunction, interpersonal conflicts, severe depressive conditions, dysphoria, and bizarre and violent psychotic disorders which may persist for weeks after use.

Ecstasy (MDMA)

What is ecstasy?

MDMA (methylenedioxymethamphetamine) is known as ecstasy. MDMA is a derivative of amphetamine and shares the stimulant properties of amphetamines and hallucinogens in its side effects as well as residual effects.

Ecstasy doesn't always contain just MDMA, it is often mixed with (or substituted by) related drugs including amphetamine, MDA, PMA, ephedrine and LSD. Some tablets sold as ecstasy contain no ecstasy at all.

Ecstasy is usually sold as small tablets or capsules. Yellow or white tablets are the most common but many other colours and designs have also been available. Some tablets are sold with embossed shapes on them such as hearts, doves, rabbits and champagne bottles.

Prevalence of ecstasy use

Refer to the ASSAD survey data for the latest prevalence statistics.



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www.dao.wa.gov.au

Mental Health Commission's website
www.mentalhealth.wa.gov.au

Death, disease and other costs

The effects of ecstasy usually start with 30 to 90 minutes and can last for six to eight hours, however sometimes the effects may last up to 24 hours. Some of the immediate effects may include: feeling of wellbeing, increased confidence, anxiety, nausea, sweating, hot and cold flushes, jaw clenching and teeth grinding, increased pulse rate and blood pressure, dry mouth, paranoid feelings and high body temperature.

Higher doses can produce: irrational behaviour, convulsions, dehydration, urinary retention, rhabdomyolysis (muscle meltdown), vomiting, hallucinations, and excessive thirst.

Ecstasy may also have a 'hangover' effect which usually occurs the day after it is taken. Symptoms may include: depression, drowsiness, muscle aches, loss of appetite, insomnia and loss of concentration.

Ecstasy affects the production of serotonin, a mechanism that regulates the body's temperature. It appears to cause a loss of control of normal body temperature. When the effects of ecstasy are combined with physical activity such as dancing, the user may overheat and dehydrate.

Ecstasy may also disturb the brain's mechanism for satiation (knowing when you have had enough water), causing users to continue drinking. When the brain is affected, swelling of the brain stem and spinal cord affects respiration, heart rate and blood pressure and can lead to death.

Hallucinogens

What are hallucinogens?

Hallucinogens are naturally or synthetically produced drugs that act to alter a person's perception of the world. Natural hallucinogens include plants such as mushrooms (psilocybin) and the peyote cactus (mescaline). Other hallucinogens include LSD, bromo-DMA, MDA, STP and PCP (angel dust) are

manufactured. Certain drugs such as cannabis and MDMA (ecstasy) can produce hallucinogenic effects at high doses or in particular circumstances.

Prevalence of hallucinogens

Refer to the ASSAD survey data for the latest prevalence statistics.



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LSD

Lysergic acid diethylamide (LSD) is commonly known as acid, trips or tabs. It is synthetically produced and is considered to be the most powerful hallucinogen produced. LSD is effective in extremely small doses with usual doses ranging from 25 to 300 micrograms. Because the amounts of the drug are so small it is usually mixed with sugar and sold on a small piece of absorbent paper decorated with popular designs. It can also be sold on sugar cubes, small squares of gelatine or in capsule, tablet or liquid form.

LSD is usually swallowed, placed under the tongue and dissolved, or the paper tile can be chewed to release the hallucinogen into the mouth.

Death, disease and other costs

The short-term physiological effects can include: slight increase in body temperature, dilation of the pupils, slightly increased heart rate and blood pressure, increased levels of glucose in the body, drowsiness, and nausea. The psychological effects can include: alterations in mood and emotion, euphoria and dysphoria, visual hallucinations, perceptual disorder, emotional instability, inability to cope, and paranoia.

LSD may also precipitate psychotic episodes that would normally be suppressed. Some users may experience 'flashbacks' where there is a spontaneous recurrence of the original experience at a later date. The flashbacks can occur weeks or even months after the last use of the drug. The mechanism that underlies the flashbacks is unknown.

Magic mushrooms (psilocybin)

Psilocybin is the natural hallucinogenic chemical found in some mushrooms. It may be sold as white crystals, crude mushroom preparations or whole dried brown mushrooms. Some species of magic mushroom grow wild in Australia. It is always dangerous to pick and eat wild mushrooms as it is difficult to distinguish magic mushrooms from other mushrooms that look the same but are poisonous.

Death, disease and other costs

The effects of magic mushrooms are usually similar to those of LSD but usually last for a shorter time (four to six hours) and can include: vivid perceptual distortions, a distorted sense of time and space, poor coordination, increased body temperature and sweating and/or chills, a lack of control over thinking processes and concentration. Users often experience a feeling of nausea before the psychoactive effects of the drug set in.

Heroin

What is heroin?

Heroin (diacetylmorphine) is a depressant that belongs to a group of drugs called opioids (sometimes referred to as narcotic analgesics eg Mersyndol®). Opioids are derived from a milky white substance produced by the opium poppy, which, when dried is known as opium. Heroin is manufactured from morphine or codeine, major alkaloids of opium, by chemical process.

In its pure form, heroin is usually a white crystalline powder. It is usually sold in the form of powder or 'rocks' and can range in colour from white to brown, depending on the substances it is mixed or 'cut' with.

Some of the street names for heroin include hammer, H, smack, horse, white and beige.

Prevalence of heroin use

Refer to the ASSAD survey data for the latest prevalence statistics.



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Death, disease and other costs

Heroin crosses the blood brain barrier quickly, resulting in a euphoric feeling or intense rush which is then followed by a calming effect, slowing the reactions through the thought process.

Immediate effects may include: feelings of wellbeing; relief of pain; shallow breathing; nausea and vomiting; constipation; sleepiness; or loss of balance, coordination and concentration.

Large doses of heroin can cause: very depressed breathing, pupils narrow to pin point, cold skin, or overdose (the CNS is depressed to a point where the person goes into a coma and dies).

Because street heroin is usually mixed with other substances, it is almost impossible to assess its strength or composition without laboratory testing. Unpredictable and high levels of purity can be a cause of overdose. When heroin is combined with other depressant drugs such as alcohol and tranquillisers the CNS becomes very depressed and breathing may cease.

Poly drug use

Poly drug use occurs when two or more drugs are used at, or near, the same time. This can occur intentionally (ie when a person chooses to combine drugs) and unintentionally (ie when a manufacturer combines different drugs to achieve a specific effect or to save money by mixing in cheaper chemicals).

The risk of harm is increased if more than one drug is used at a time, especially when drugs of unknown content and purity are combined. This includes mixing over-the-counter drugs, prescription drugs and illegal drugs.

Poly drug use increases the risk of the following symptoms and effects including:

- an increase in heart rate, blood pressure and body temperature
- overdose
- severe emotional and mental disturbances such as panic attacks and paranoia.

Steroids

What are anabolic-androgenic steroids?

Anabolic-androgenic steroids (or anabolic steroids) are a group of drugs that include the male sex hormone testosterone and several synthetically produced structural derivatives of testosterone. They are not classed as psychoactive drugs. The anabolic effects assist in the growth and repair of tissue, mainly muscle. The androgenic effects are involved in the development and maintenance of male sex characteristics. All anabolic steroids have both anabolic and androgenic effects to varying degrees.

Anabolic steroids are available as tablets or liquid for injecting.

Prevalence of steroid use

Refer to the ASSAD survey data for the latest prevalence statistics.



Drug and Alcohol Office website
www.dao.wa.gov.au

Mental Health Commission's website
www.mentalhealth.wa.gov.au

Death, disease and other costs

There are a range of adverse side effects which users may experience following the non-medical use of anabolic steroids. Some side effects are irreversible and others have been associated with death.

Physical effects may include: acne, high blood pressure, liver and heart problems, increased cholesterol levels, gynaecomastia (breast-like growth in the male), hair loss, hypertension, sleeplessness, headaches, tendon injuries, permanent short stature in adolescents, tendon and ligament damage, and water retention.

Psychological side effects may include: increased aggression and irritability; mood swings, schizophrenic type activity; depression; dependence. Females may experience: clitoral enlargement, smaller breasts, voice changes, cessation of menstruation, excessive growth of hair on back and bottom. Males may experience shrinking of testicles and prostate problems.

Tobacco and passive smoking

What's in tobacco?

Tobacco contains thousands of chemicals that may harm a person's health:

- Tar, a black, sticky substance that contains many poisonous chemical such as: ammonia (found in floor and window cleaner), toluene (found in industrial solvents) and acetone (found in paint stripper and nail polish remover).
- Nicotine, the addictive stimulant drug in tobacco found in the tobacco plant.

- Carbon monoxide, a poisonous gas that reduces the amount of oxygen taken up by a person's red blood cells.
- Hydrogen cyanide, the poison used in gas chambers during World War II.
- Metals, including lead, nickel, arsenic (white ant poison) and cadmium (used in car batteries).
- Pesticides such as DDT, methoprene (found in flea powder) are used in growing tobacco. Other chemicals such as benzene (found in petrol) and naphthalene (found in mothballs) are added when cigarettes are being made.

Nicotine occurs naturally in the tobacco plant. When tobacco smoke is inhaled, the vapour is absorbed very quickly into the bloodstream through the lining of the mouth and lungs. In large amounts nicotine is poisonous, however when smoked only a small dose is inhaled.

The first symptoms of nicotine dependence can appear within days to weeks of the onset of occasional use, often before the onset of daily smoking. There does not appear to be a minimum nicotine dose or duration of use as a prerequisite for symptoms to appear. Interestingly, girls tend to develop symptoms of nicotine addiction faster than boys.

Prevalence of tobacco smoking

Refer to the ASSAD survey data for the latest prevalence statistics.



Drug and Alcohol Office website
www.dao.wa.gov.au

Mental Health Commission's website
www.mentalhealth.wa.gov.au

Death, disease and other costs

Tobacco smoking is the largest single preventable cause of death and disease in Australia today. Smoking is estimated to cause 19,000 deaths in Australia each year, over nine times the number of road crash fatalities.

Some of the diseases caused by smoking include: cancer (in the lung, lip, tongue, mouth, throat, nose, nasal sinus, voice box, oesophagus, pancreas, stomach, kidney, bladder, ureter, cervix, and bone marrow); heart disease and stroke; emphysema and asthma; and blindness.

Passive smoking

Passive smoking means breathing in other people's tobacco smoke. Second-hand smoke is a danger to everyone, but young children, pregnant women and the partner of people who smoke are most vulnerable. Passive smoking increases the risk of sudden infant death syndrome (SIDS or cot death).

How tobacco prevention is taught is important

Research on the predictors of smoking, suggest that the most promising school-based approaches:

- help students to develop negative attitudes to smoking
- teach young people how to cope socially while resisting peer influences to smoke
- get parents to quit while their children are young
- have opportunities for students to participate in health-promoting activities.

The normative education activities in this resource clarify misconceptions about tobacco use for students. It is important that they understand that young people who don't smoke are more likely to be one of the crowd, than the odd person out. Encourage students to be 'smoke free' rather than advocating that students simply 'don't smoke'.

Discussions that suggest smoking is a 'deviant' behaviour may be the very thing that attracts some students to take up smoking. It is therefore suggested that programs should focus on positive messages such as:

- Most young people don't smoke.
- Young people who do smoke, generally respect those who decide not to.
- Young people can become addicted to smoking even if they don't smoke many cigarettes, however, the fewer cigarettes a young person smokes; the easier it is to stop.

Schools should consider developing *School Drug Education Guidelines* that include the procedures and intervention support that will be put in place for students who smoke. The Guidelines should treat smoking as a health and safety issue rather than a disciplinary issue.

Tranquillisers (Benzodiazepines)

Benzodiazepines are depressant or sedative drugs prescribed by doctors to relieve stress and anxiety, relax muscles or promote sleep and are sometimes used to treat epilepsy. They are commonly known as tranquillisers and sleeping pills that have calming, anxiolytic (anxiety relieving) and hypnotic (sleep inducing) properties and are usually prescribed in tablet or capsule form and include diazepam (eg Valium®), oxazepam (eg Serepax®), nitrazepam (eg Mogadon®), temazepam, flunitrazepam and bromazepam. Benzodiazepines are available on prescription only in Australia.

Street names include Benzos, tranx, sleepers, downers, pills, xannies, serras (Serepax®), moggies (Mogadon®) and normies (Normison®).

Prevalence of tranquilliser use

Refer to the ASSAD survey data for the latest prevalence statistics.



Drug and Alcohol Office website
www.dao.wa.gov.au

Mental Health Commission's website
www.mentalhealth.wa.gov.au

Death, disease and other costs

Benzodiazepines affect everyone differently but some effects may include: depression, confusion, feelings of isolation or euphoria, impaired thinking and memory loss, headache, drowsiness and fatigue, dry mouth, slurred speech or stuttering, blurred vision, nausea and loss of appetite, diarrhoea or constipation.

If a large amount is taken the following may be experienced: over-sedation or sleep; slow, shallow breathing; mood swings and aggression; jitteriness and excitability; unconsciousness or coma; death (more likely when taken with another drug such as alcohol).

The effects of taking benzodiazepines with other drugs can be unpredictable and dangerous and could cause breathing difficulties, an increased risk of overdose and death (eg benzodiazepines combined with alcohol or opiates such as heroin).

Volatile substances (inhalants)

Volatile substance use (VSU) refers to the practice of deliberately inhaling substances that are volatile (vaporous) for the purpose of intoxication. Volatile substances are also known as inhalants and are depressant drugs which can be categorised into:

- **Solvents** are liquids or semi-solids such as petrol and glue. They are usually common household and industrial products such as paint thinner, dry cleaning fluid, correction fluid and degreaser.
- **Gases** include medical anaesthetics and gases used in household or commercial products such as fire extinguishers and lighter fuels.
- **Aerosols** are sprays that contain propellants and solvents. They include paint, deodorant, hair, insect and vegetable oil sprays.
- **Nitrites** such as amyl, butyl and isobutyl nitrite (together known as nitrites or poppers) are clear, yellow liquids and include soda

Prevalence of volatile substance use

Refer to the ASSAD survey data for the latest prevalence statistics.



Drug and Alcohol Office website
www.dao.wa.gov.au

Mental Health Commission's website
www.mentalhealth.wa.gov.au

Death, disease and other costs

The possible physical effects of VSU, like any drug, are dependent on a range of factors. The effects of inhalants may start to be felt immediately and can last for 45 minutes.

Low to moderate dose effects can include: feeling of wellbeing, blurred vision, runny nose or sneezing, diarrhoea, drowsiness, unpleasant breath, giggling and laughing, slurred speech, irregular heart beat, headache, bloodshot or glazed eyes, impaired coordination and muscle control.

Higher dose effects can include: decreased coordination, bloodshot eyes, hallucinations and delusions, decreased coordination and muscle control, nausea, vomiting, diarrhoea, blackout, convulsions, coma, grand mal epilepsy, acquired brain syndrome.

Sudden sniffing death

Sudden sniffing death can follow the use of aerosol sprays, cleaning and correction fluids, and model building cement. It is believed that the chemicals in these products can cause

heart failure, particularly if the user is stressed or does heavy exercise after inhaling.

How VSU is managed and taught is important

As products containing volatile substances are cheap and easily accessible from retail outlets, it is recommended and reflected in state and national policies and strategies, that schools do not include these inhalants in their classroom-based programs.

It is however recommended that school drug education about VSU should occur when groups of students are at-risk by virtue of a local outbreak or 'fad', or by widespread knowledge and discussion of the issue by young people. Where this is not required, generic drug-related education that emphasises these products as poisons and hazardous chemicals is recommended.

Any education delivered to students around this issue should be offered alongside appropriate school-based intervention support. Examples of intervention support procedures and how to develop these in schools to support students at risk, can be found in SDERA's *Getting it together: A whole-school*



approach to drug education resource which was distributed to all WA schools in 2010 and is available on the website www.sdera.org.au

Where a school has clear evidence that an individual or small group of students are using volatile substances, it is recommended that the school seeks the counselling services from a Community Drug Service team (refer to the Drug and Alcohol Office WA website www.dao.health.wa.gov.au).



Further information about VSU is available on the Drug and Alcohol Office website at <http://www.dao.health.wa.gov.au/vsu/pages/home.htm>





Useful websites and other resources

Aboriginal Alcohol and Drug Service provides a range of culturally secure services, including treatment, education programs and yarning.

Phone: (08) 9221 1411

Alcohol and Drug Support Line is a free 24-hour, state-wide, confidential telephone service where you can talk to a professionally trained counsellor about your own or another's alcohol or drug use.

Phone: (08) 9442 5000

Country callers: 1800 198 024

E-mail: alcoholdrugsupport@mhc.wa.gov.au

Australian Drug Foundation www.adf.org.au

Australian Institute of Health and Welfare (2010 National Drug Strategy Household Survey report)
<http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=10737421314&libID=10737421314>

Beyondblue is a national depression initiative for young people
www.ybblue.com.au/

Drug Aware www.drugaware.com.au

Drug and Alcohol Office (ASSAD survey 2011)
www.dao.health.wa.gov.au

Headspace and Yarn Space www.headspace.org.au

Kids Helpline is a 24 hour help line that can be called on 1800 55 1800
www.kidshelp.com.au

National Cannabis Prevention and Information Centre www.ncpic.org.au

National Health and Medical Research Council
www.nhmrc.gov.au/guidelines

Parent and Family Drug Support Line is a free alcohol and other drug information and support for parents and family members. Talk to a professionally trained counsellor about alcohol and other drugs. Talk confidentially to another parent for strategies and support.

Phone: (08) 9442 5050

Country callers: 1800 653 203

Email: alcoholdrugsupport@mhc.wa.gov.au

Reachout is about helping young people to help themselves
www.reachout.com.au

School Drug Education and Road Aware
www.sdera.wa.edu.au

The other talk <http://theothertalk.org.au/>