



OTHER DRUGS

KEY POINTS

- The number of steroid detections at the Australian border increased by 74 per cent in 2009–10 and is the highest recorded in the last decade.
- The number of national steroid seizures continued to increase and is currently the highest on record.
- The number of tryptamine detections at the Australian border is the highest recorded in the last decade.
- The weight of national tryptamine seizures increased from 1.5 kilograms in 2008–09 to 12 kilograms in 2009–10.
- The number of border detections of anaesthetics increased in 2009–10 and is the highest reported since 2001–02.



Other drugs and substances—collectively referred to in this report as ‘other drugs’—are being increasingly recognised as part of Australia’s illicit drug market. This chapter focuses on the main drugs and substances in this category: anabolic agents and other selected hormones, tryptamines, anaesthetics and pharmaceuticals. However, it is important to acknowledge developments in the use of drug analogues and other synthetic drugs.

Drug analogues and other synthetic drugs have been present in Australia and overseas since at least the mid-2000s. Analogue drugs are variants of a parent compound, which is usually a prohibited or scheduled drug. These substances are typically marketed as ‘legal highs’¹ and used as substitutes for illicit drugs such as methylamphetamine and 3,4-methylenedioxymethylamphetamine (MDMA). In recent years users have increasingly sought out specific analogues to the point where an analogue market has now been established.

A wide range of analogue and other synthetic drugs are available to users. Many of these substances are sourced from online ‘legal high’ stores, legitimate fine chemical suppliers and sites selling ‘research chemicals’. In an attempt to circumvent legislative and regulatory measures, many of these substances are marketed under the guise of other products such as bath salts, plant food, incense and room deodorisers.

Up to 500 different analogue drugs have been identified as being advertised through overseas online legal high stores. Reported effects of use include euphoria, stimulation and altered consciousness. Analogues are marketed as being natural and legal and are perceived by many users to be less harmful than illicit drugs. As many of these substances are novel, there is limited research or knowledge about the short or long-term health consequences of use, the risk of dependence, possible adverse effects of use with other drugs or potential fatal doses.

An analogue which has received recent significant media and law enforcement attention is 4-methylmethcathinone (also known as 4-MMC, mephedrone, meow and m-cat). 4-MMC is a synthetic stimulant and an analogue of the drug methcathinone. It is reported to produce distinctive emotional and social effects, including elevated empathy, stimulation, euphoria and awareness. In Australia, there are no licit uses for 4-MMC and it is a prohibited import under Section 314.4 (2) of the *Commonwealth Criminal Code Act 1995* and Schedule 4 of the *Customs (Prohibited Imports) Regulations 1956*.

1 Use of the term ‘legal high’ may not reflect the true legal status of these substances under Australian legislation.

ANABOLIC AGENTS AND SELECTED HORMONES

MAIN FORMS

Anabolic agents and selected hormones are also referred to as performance and image enhancing drugs (PIEDs).

The *Australian Standard Classification of Drugs of Concern* distinguishes 4 classes of substances as anabolic agents and selected hormones. These are:

- anabolic-androgenic steroids (AAS)
- beta-2 agonists
- peptide hormones, mimetics and analogues
- other anabolic agents and selected hormones (ABS 2000).

ANABOLIC-ANDROGENIC STEROIDS, BETA-2 AGONISTS AND OTHER ANABOLIC AGENTS

The World Anti-Doping Agency's (WADA) list of prohibited substances categorises anabolic agents as either AAS or other anabolic agents that are not categorised as AAS but have similar anabolic effects (WADA 2010).

AAS are derivatives of the male sex hormone testosterone and assist in the growth and repair of muscle and bone. In clinical settings, they are used in the treatment of renal failure, anaemia, hypogonadal states, bone marrow failure, growth failure in children, delayed puberty, acquired immunodeficiency syndrome and late stages of breast cancer. They are used by athletes and body builders for non-medical purposes to enhance sporting performance and increase muscle definition and mass (CAMH 2008; Marshall-Gradisnik et al. 2009).

AAS may be administered orally in the form of tablets or capsules, injected intramuscularly or absorbed through the skin via cream, gel or skin patches (CAMH 2008). Side effects of AAS use may include liver damage, acne, heart problems, euphoria, mood swings, depression, paranoia and aggression. Male-specific effects include infertility and development of breast tissue. In females it can lead to menstrual problems and foetal damage (NDARC 2010b).

There is an illicit market for beta-2 agonists. These drugs which have a legitimate use in the treatment of asthma are used by athletes and body builders to promote the growth of skeletal muscle (anabolic effects) and to reduce body fat (catabolic effects). Side effects of use include insomnia, heart palpitations, high blood pressure, stroke, anxiety, nausea and sudden death (NDARC 2010c).

AAS and other anabolic agents commonly used in Australia are outlined in Table 15.



TABLE 15: AAS and other anabolic agents commonly used in Australia

Drug name	Potential effects	Brand name	Forms
AAS—Anabolic	Used to increase muscle mass through increased retention of protein	Deca-durabolin, Anadrol-50, Oxandrin	Ampoule, vial, pre-packed syringe, tablet
AAS—Androgenic	Used to increase muscle mass by increasing male sex hormone levels	Depo-testosterone, Sustanon, Androil Testocaps	Vial, ampoules, pre-packed syringe, capsules
Beta-2 agonists	Commonly used to treat asthma, however when taken into the blood-stream increase muscle mass by mimicking the effects of adrenaline and non-adrenaline	Bricanyl, Ventolin, Clenbuterol	Ampoules, rotacaps, inhaler, nebuliser, tablet

HORMONES, MIMETICS AND ANALOGUES

Hormones are vital for the effective functioning of the human body. They are naturally produced by the body; however synthetic mimetics and analogues have been developed to assist in the treatment of a number of medical conditions.

Examples of hormones which may be diverted for non-medical purposes include Erythropoietin (EPO); human growth hormone (hGH) and human chorionic gonadotrophin (hCG). EPO is a naturally occurring hormone which controls the amount of blood cells and haemoglobin present in the body (Harty 2010). hGH is involved in increasing linear height, muscle development and bone growth, as well as effecting psychological wellbeing (THF 2009). hCG is important in triggering hormonal changes in women during embryo development in pregnancy and can increase the production of natural male and female steroids (sex hormones) (NDS 2006a).

Hormones, mimetics and analogues commonly used in Australia are listed in Table 16.

TABLE 16: Hormones, mimetics and analogues commonly used in Australia

Drug name	Potential effects	Brand name	Forms
Erythropoietin (EPO)	Increases endurance and recovery from anaerobic exercise	Epex, Aranesp	Ampoules, pre-packed syringe
Human chorionic gonadotrophin (hGH)	Used to manage the side effects of AAS use such as gynaecomastia ^a and shrinking testicles	APL, Pregnyl, Profasi, Novarel, Repronex	Vial, ampoules
Human growth hormone (hGH)	Used to increase muscle size and strength	Norditropin, Norditropin SimpleXx, Genotropin, Humatrope, Saizen, Scitropin	Penset, vial, auto injector cartridge
Insulin	Used because of the perception that it contributes to increased muscle bulk ^b	NovoRapid, Apidra, Humalog, Hypurin Neutral, Actrapid, Humulin R, Protaphane, NovoMix 30	Vial, penset, pre-packed syringe
Pituitary and synthetic gonadotrophins	Used to overcome the side effects of AAS use or as a masking agent	Clomid, Bravelle	Ampoules, tablet
Insulin-like Growth Factor	Used to increase muscle bulk and reduce body fat	Increlex	Vial
Corticotrophins	Used because of its anti-inflammatory properties and for mood elevating effects	Synacthen Depot	Ampoules
Anti-oosterones	Used to manage the side effects of AAS use such as gynaecomastia ^a	Nolvadex	Tablet

a The development of breast-like tissue in males.

b There is no scientific evidence of this.

Despite potential serious adverse side effects, athletes are still attracted to the advantages of using both natural and synthetic hormones. For example, increasing the levels of EPO in an athlete’s body boosts endurance performance by transporting more oxygen to the muscles. However, by increasing EPO—through injection or altitude training—the blood becomes so thick with red cells that it can form clots, which may result in thrombosis in the cardio arteries, lungs or brain (Harty 2010; Hopkins 2000; Noakes 2004).

INTERNATIONAL TRENDS

AAS are controlled substances in several countries, including Australia, Argentina, Brazil, Canada, the United Kingdom (UK) and the United States of America (US). As they are not controlled substances in all countries, many foreign distributors are able to legally distribute these substances from their country to customers overseas via Internet and email orders. In Europe, the majority of hormone products are sourced from countries within the European Union (EU) and Russia. A smaller proportion is imported from Thailand, Turkey, Egypt, India and Pakistan. In the US, Mexico is the main source country for anabolic steroids, with other source countries including Russia, Romania and Greece (Kicman 2008).

Internationally, population surveys indicate that only a small proportion of the population use anabolic steroids. Slightly higher rates of use are reported in surveys of youth. For example, in a 2009 study of the population in Britain and Wales, only 0.2 per cent of the population had used steroids in the preceding 12 months compared to 0.9 per cent of 16–24 year olds (Hoare & Moon 2010). In studies of high school students conducted in the US and Canada, the proportion of students reporting steroid use was 1.5 per cent and 1.1 per cent respectively (Johnston et al 2010; Paglia-Boak et al 2009).

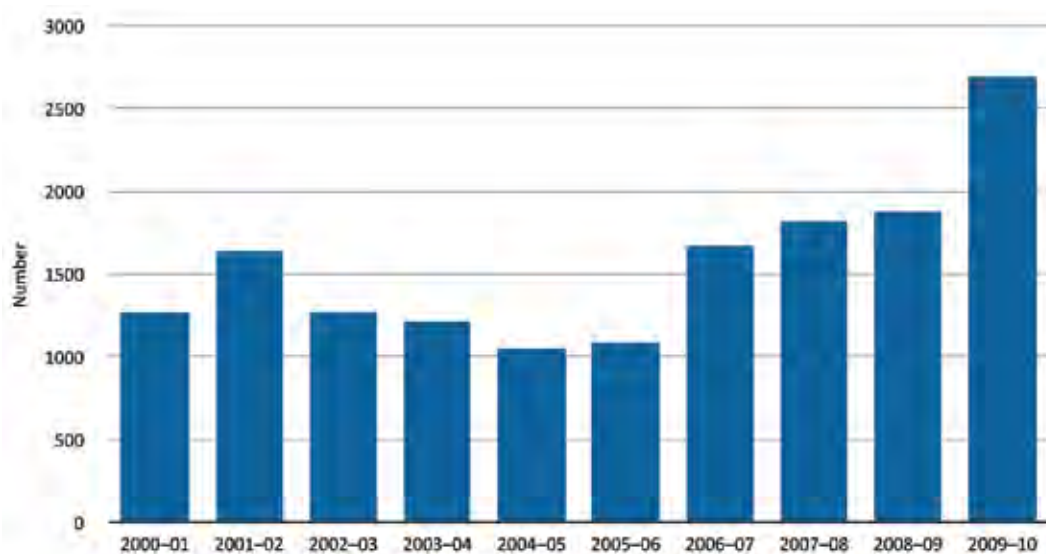
DOMESTIC TRENDS

AUSTRALIAN BORDER SITUATION

The Australian Customs and Border Protection Service (Customs and Border Protection) continues to disrupt and deter the movement of illicit PIEDs into Australia.

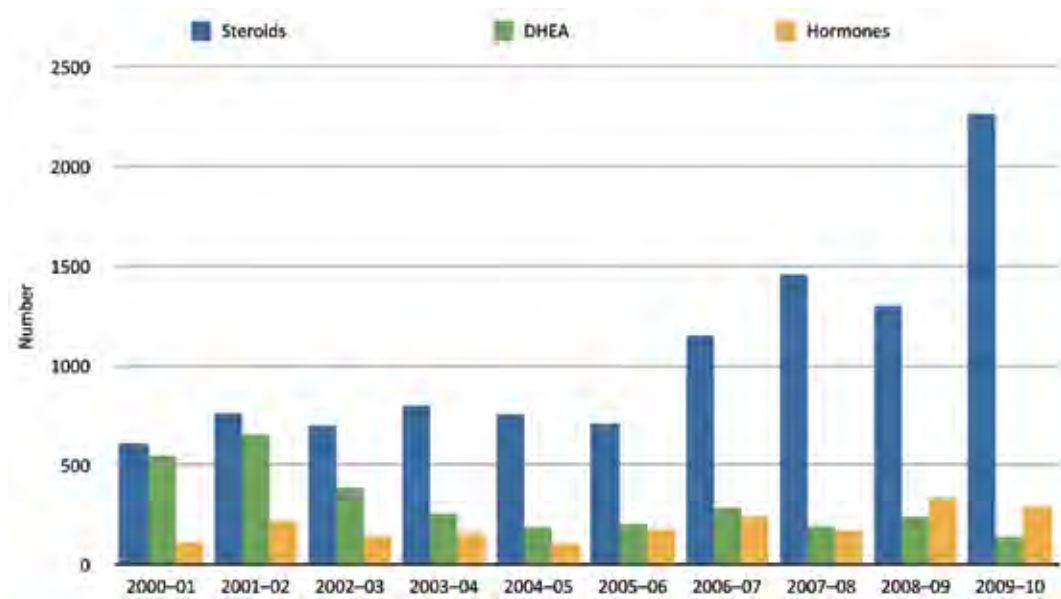
In 2009–10, 2 695 attempted importations of PIEDs were detected at the Australian border, the highest number in the last decade. This represents a 44 per cent increase from the 1 878 detections in 2008–09 (see Figure 48).

FIGURE 48: Number of performance and image enhancing drug detections at the Australian border, 2000–01 to 2009–10 (Source: Australian Customs and Border Protection Service)



In 2009–10, the 2 695 detections of PIEDs at the Australian border consisted of 2 264 steroid, 139 Dehydroepiandrosterone (DHEA) and 292 selected hormone detections. These figures represent a 74 per cent increase in the number of steroid detections—the highest in the last decade. However, this reporting period also saw a 42 per cent decrease in DHEA detections—the lowest in the last decade—and a 14 per cent decrease in hormone detections (see Figure 49).

FIGURE 49: Number of performance and image enhancing drug detections, by category, at the Australian border, 2000–01 to 2009–10 (Source: Australian Customs and Border Protection Service)



In 2009–10, there was a significant increase in the number of detections of Clenbuterol (a beta-2 agonist), from 56 in 2008–09 to 191 in 2009–10, representing a 241 per cent increase. Despite potential health risks, Clenbuterol is used illicitly for weight loss.

SIGNIFICANT BORDER DETECTIONS

In 2009–10, the majority of PIED detections were within the air cargo and postal streams and continue to involve small quantities. Customs and Border Protection is seeing more innovative concealment methods used in an attempt to bypass border controls and maintain supply to users.

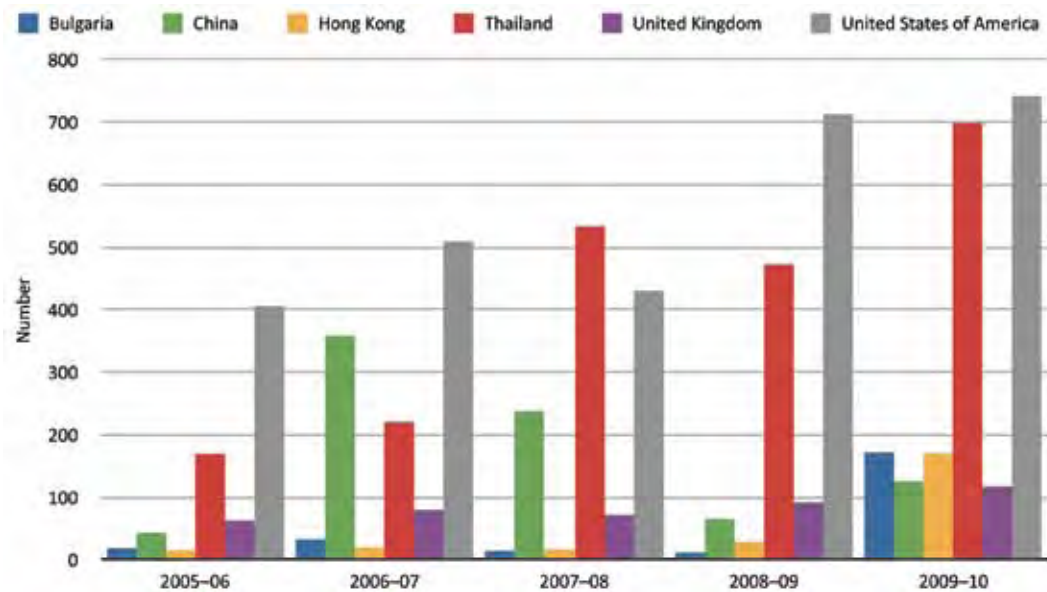
Most steroid detections in this reporting period occurred in the air passenger stream. Detections generally involved air passengers carrying significant quantities of steroids, predominantly testosterone.

EMBARKATION POINTS

In 2009–10, prominent countries of embarkation for attempted importations of PIEDs included the US, Thailand, Hong Kong, Bulgaria, China and the UK. These 6 countries accounted for 75 per cent of all PIED importations during 2009–10 (see Figure 50).



FIGURE 50: Country of embarkation for performance and image enhancing drug importations by number detected at the Australian border, 2005–06 to 2009–10 (Source: Australian Customs and Border Protection Service)



DOMESTIC MARKET INDICATORS

A 2008 survey of secondary students conducted in the state of Victoria found that 2 per cent of 12–17 year olds reported misusing steroids during the 12 months preceding interview (White & Smith 2009). The 2009 Australian Needle and Syringe Program Survey (ANSPS) found similar results, with only 2 per cent of respondents aged 15–66 years reporting anabolic steroids as the last drug injected (NCHECR 2010). The percentage of respondents reporting use in both surveys is well above findings of the 2007 National Drug Strategy Household Survey (NDSHS), which reported only 0.1 per cent of the Australian population had used steroids illicitly in the 12 months preceding interview (AIHW 2008a).

PRICE

Law enforcement data on the price of illicit anabolic agents was unavailable.

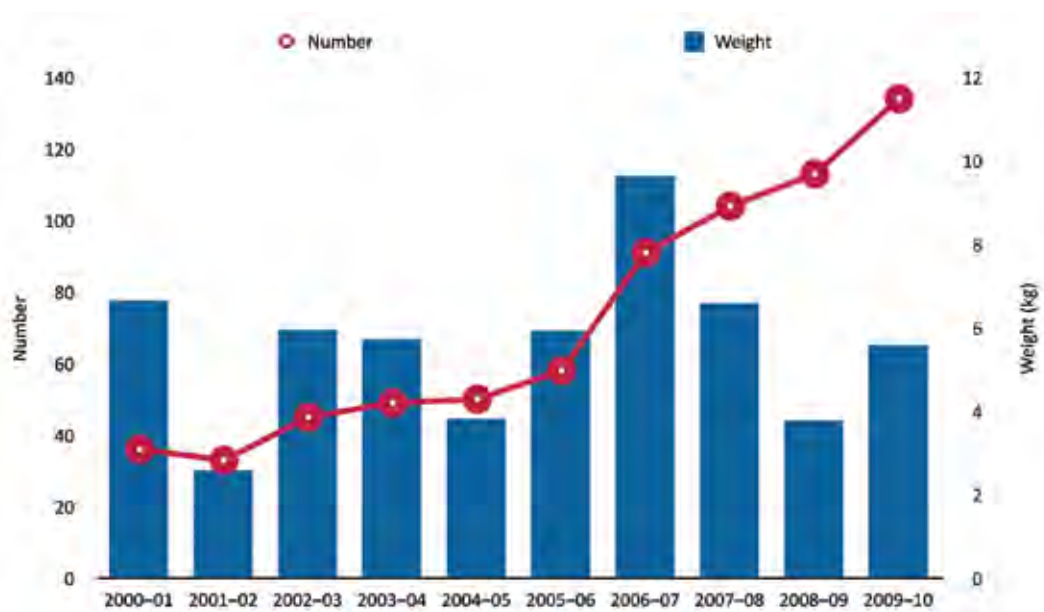
AVAILABILITY

Australia has limited data on the availability of anabolic agents in the illicit market. In 2008, a survey of elite Australian athletes found that only 2 per cent had been offered or had the opportunity to use steroids (Dunn & Thomas 2010). In 2007, the NDSHS reported that 1.3 per cent of the Australian population had been offered or had the opportunity to use steroids (AIHW 2008b).

SEIZURES AND ARRESTS

The number of national steroid seizures has steadily increased over the last decade, while the weight of seizures has fluctuated. In 2009–10, both the number and weight of national steroid seizures increased. The number of seizures increased from 113 in 2008–09 to 134 in 2009–10, while the weight increased from 3.7 kilograms in 2008–09 to 5.5 kilograms in 2009–10 (see Figure 51).

FIGURE 51: National steroid seizures, by weight and number 2000–01 to 2009–10



National steroid arrests increased by 47 per cent from 214 in 2008–09 to 314 in 2009–10. Since 2007–08, Queensland has accounted for the majority of steroid arrests.

TRYPTAMINES

MAIN FORMS

A group of hallucinogens which include lysergic acid diethylamide (LSD), psilocybin, dimethyltryptamine (DMT) and diethyltryptamine (DET) are classified as tryptamines. Some tryptamines are found in a variety of flowering plants, leaves, seeds and in spore-forming plants such as psilocybin-containing mushrooms, while others such as LSD and DET, are synthetically manufactured (DEA 2010; Sarker & Nahar 2007; DoHA 2010b; NIDA 2009a).

Hallucinogens significantly alter perception, mood and thought. Users may experience an increased sense of euphoria and wellbeing, as well as auditory and visual hallucinations. Adverse effects of use include nausea, dizziness, poor coordination and paranoia. Body temperature is also affected and may either increase, resulting in sweating, or decrease, resulting in chills and shivering (Degenhardt & Hall 2010).

The 2 most common types of tryptamines used in Australia are LSD and psilocybin-containing mushrooms. Due to the limited data available for other types of tryptamines, this section will only cover these 2 types.



LYSERGIC ACID DIETHYLAMIDE (LSD)

LSD was first synthesised in 1938 and is manufactured from lysergic acid, which is found in ergot, a fungus that grows on rye and other grains. It is among the most potent mood-changing chemicals, with only a small amount needed to cause visual hallucinations and distortions, known as ‘trips’ (Degenhardt & Hall 2010; NIDA 2009a).

LSD is normally produced as a tartrate salt which is colourless, odourless and water soluble. Its most common forms are ‘blotters’ or paper tabs. Usually taken orally, the effects of LSD are highly variable and unpredictable. LSD causes distortions in a person’s perception of reality, with sensations and feelings changing more dramatically than physical responses. Users may feel several different emotions at once or swing rapidly between emotions. Some LSD users experience severe, terrifying thoughts and feelings of despair, fear of losing control, or fear of insanity and death. Users may also experience recurrences of certain aspects of the drug experience, referred to as ‘flashbacks’. Flashbacks can persist in some users and lead to a condition known as hallucinogen-induced persisting perceptual disorder (EMCDDA 2010b, NIDA 2009a; NZDF 2009c).

PSILOCYBIN-CONTAINING MUSHROOMS

Psilocybin is a chemical with hallucinogenic properties that is found in certain species of mushrooms, colloquially referred to as ‘magic mushrooms’. There are approximately 20 species of psilocybin-containing mushrooms in Australia. Grown in the forests of Victoria and New South Wales and parts of Queensland, the most common varieties consumed are ‘gold tops’, ‘blue meanies’ and ‘liberty caps’ (DoHA 2010b).

Hallucinogenic mushrooms are available fresh, treated or preserved, in powder or capsule form. Usually sold as dried mushrooms, they can be eaten raw, brewed as tea or combined with other foods to mask their bitter taste (CYWHS 2009). The potency of hallucinogenic mushrooms varies and is dependant on species, origin, growing conditions, harvest period and form (EMCDDA 2009).

Psilocin and psilocybin users may experience hallucinations, altered perception of time and an inability to discern fantasy from reality. Additional effects of use can include hyperreflexia, anxiety and drowsiness, abdominal cramping, diarrhoea, nausea and vomiting. Panic reactions and psychosis may occur, particularly if a user ingests a large dose. Long-term effects of use may include flashbacks, risk of psychiatric illness and impaired memory (NIDA 2009a; Psychology Today 2010). Due to the difficulty in visually distinguishing between psilocybin-containing mushrooms and poisonous mushrooms, users also risk permanent liver damage or death.

INTERNATIONAL TRENDS

The popularity of alternate psychoactive compounds continues to grow in several countries, particularly in the EU, where the uptake of use is being driven by legal status and online availability. In February 2010, the European Commission-sponsored Psychonaut Web Mapping Project identified 412 novel psychoactive compounds available in the European recreation drug market. The project categorised the compounds as herbal, chemical, pharmaceutical or others/combinations and noted that due to limited scientific information, professionals and clinicians were often unable to assess the possible medical and psychiatric consequences resulting from use of these alternate psychoactive compounds (PWMRG 2010).

Despite being one of the most commonly used hallucinogens, the prevalence of LSD use reported in international surveys is generally low, with use in many countries decreasing over the past decade. In a 2009 survey of the US population, it was estimated that 0.2 per cent of the population had used hallucinogens² in the last month (SAMHSA 2010). In Europe, overall reported consumption levels of LSD have been low for a considerable time. In 2008, only 2 European countries had a response rate above 1 per cent for use in the last 12 months in the 15–24 age group (EMCDDA 2010b).

In New Zealand, though not widely used, the reported use of LSD has remained relatively constant. Despite a decline earlier in the decade, prevalence of use has stabilised in recent years among some groups of drug users due to concerns over the health effects associated with methylamphetamine use and frustration at the decline in the quality of ecstasy. This is supported by national seizure rates, with a record 53 177 LSD tabs seized in 2009 (Wilkins et al 2010).

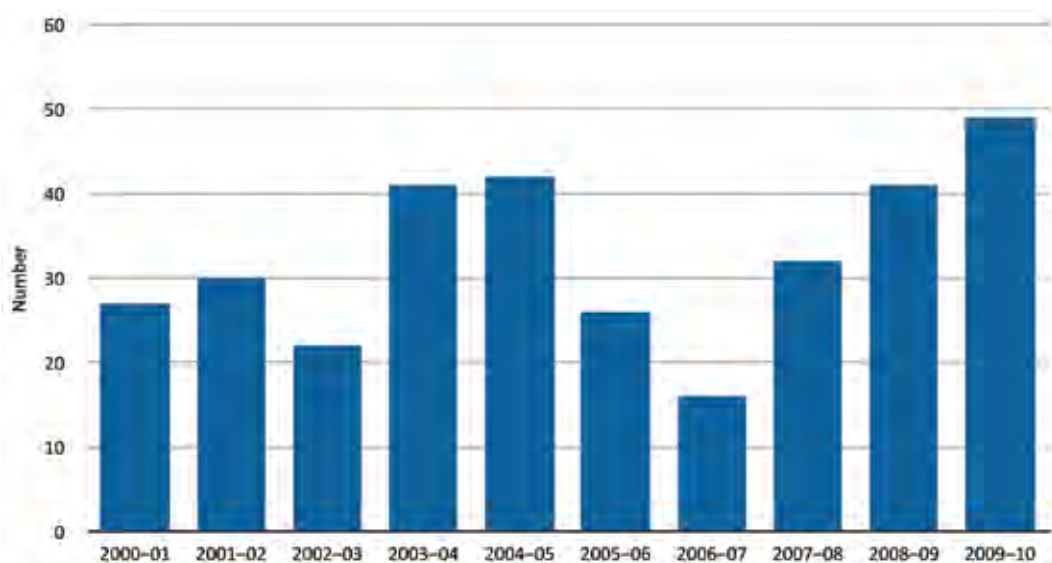
Internationally, there is limited reporting available on the scale of cultivation of psilocybin-containing mushrooms. The 2009 seizure of 68 kilograms of psilocybin-containing mushrooms in Alberta, Canada, highlights the potential for large-scale cultivation. The mushrooms seized were reported to be the same age, with media claiming the seizure was one of the largest international seizures of psilocybin-containing mushrooms (Gandia 2009).

DOMESTIC TRENDS


AUSTRALIAN BORDER SITUATION

The tryptamines most commonly detected at the Australian border are LSD and psilocybin-containing mushrooms. In 2009–10, there were 49 detections of tryptamines at the Australian border. This is the highest number of tryptamine detections in the last decade (see Figure 52).

FIGURE 52: Number of tryptamine detections at the Australian border, 2000–01 to 2009–10 (Source: Australian Customs and Border Protection Service)



² Several drugs are grouped under the hallucinogens category, including LSD, PCP, peyote, mescaline and psilocybin mushrooms.



Consistent with 2008–09, Customs and Border Protection detected 2 attempted importations of LSD in 2009–10. Both detections were posted from Peru to New South Wales on consecutive days in September 2009.

There were 47 psilocybin-related detections in 2009–10, an increase from 39 detections in 2008–09. Of the 47 detections, 46 were in the postal stream and 1 was in the air passenger stream. A total of 11 detections were in syringes or vials. The Netherlands was the prominent embarkation country, accounting for 72 per cent of detections. Other prominent countries of embarkation include Austria and the US

DOMESTIC MARKET INDICATORS

In a 2009 study of regular injecting drug users, only 7 per cent of respondents reported LSD use and 2 per cent reported use of psilocybin-containing mushrooms in the 6 months preceding interview (Stafford & Burns 2010).

In a 2009 study of regular ecstasy users, 34 per cent of respondents reported LSD use and 19 per cent of respondents reported use of psilocybin-containing mushrooms in the 6 months preceding interview. Of those reporting recent mushroom use, 88 per cent had used less than once per month (Sindicich & Burns 2010).

In the 2007 NDSHS, 6.7 per cent of respondents reported having used hallucinogens at some time during their lives. In the 12 months preceding interview (recent use), respondents in the 20–29 year age group had the highest proportion of users at 2.1 per cent. The NDSHS found that magic mushrooms were the most commonly used hallucinogen among recent users (70 per cent) followed by LSD (62 per cent) (AIHW 2008a).

PRICE

In 2009–10, law enforcement price data for LSD varied between jurisdictions, ranging between \$20 and \$35 per tab.

According to a 2009 national study of regular ecstasy users, the median price of LSD ranged from \$15 in South Australia to \$25 in Western Australia, the Northern Territory and the Australian Capital Territory. According to the majority of respondents, the price of LSD had remained relatively stable in the 6 months preceding interview. Price data on psilocybin-containing mushrooms was not reported (Sindicich & Burns 2010).

Law enforcement data on the price of psilocybin-mushrooms was unavailable.

PURITY

In a 2009 national study of regular ecstasy users, 60 per cent of those who commented on the purity or strength of LSD reported it as 'high'. Purity data for psilocybin-containing mushrooms was not reported (Sindicich & Burns 2010).

AVAILABILITY

In a 2009 study of regular ecstasy users, 27 per cent of respondents commented on the availability of LSD in Australia. Of these, 61 per cent reported that LSD was easy or very easy to obtain. There are no figures on the availability of psilocybin containing mushrooms. In 2007, the NDSHS reported that 1.7 per cent of the population had been offered or given the opportunity to use LSD or other synthetic hallucinogens (AIHW 2008b).

SEIZURES AND ARRESTS

The number of national tryptamine seizures has increased steadily since 2005–06. In 2008–09 there were 135 tryptamine seizures compared with 215 in 2009–10, which is the highest number of seizures in the last decade. The weight of national tryptamine seizures increased significantly, from 1.5 kilograms in 2008–09 to 12 kilograms in 2009–10, representing the second highest weight seized in the last decade (see Figure 53).

FIGURE 53: National tryptamine seizures, by weight and number, 2000–01 to 2009–10



The number of national tryptamine arrests increased from 369 in 2008–09 to 512 in 2009–10. Queensland continues to constitute the majority of national tryptamine arrests and accounted for 33 per cent of the total in 2009–10.


ANAESTHETICS

MAIN FORMS

Originally developed for medicinal use, a number of anaesthetics are diverted for illicit use. This section covers ketamine hydrochloride (ketamine) and gamma-hydroxybutyrate (GHB), 2 of the more prevalent illicitly used anaesthetics.

KETAMINE

Ketamine is considered a dissociative anaesthetic as it produces feelings of 'disassociation' from a person's environment as well as from one's self. It also has hallucinogenic effects and can impact on a person's senses and perception of reality. Clinically used in medical and veterinary settings as a short-acting anaesthetic, ketamine is also diverted into the illicit market due to its sedative and hallucinogenic properties (DoHA 2010b).



Ketamine is commonly sold in 3 forms: powder, tablet and liquid. Ketamine is often swallowed, snorted or injected. It can also be combined with other substances, such as cannabis or tobacco, and smoked (NSW Health 2010b).

Low to moderate doses of ketamine can induce feelings of euphoria, relaxation, hallucinations and distorted sensory processing, as well as feelings of anxiety, paranoia, nausea and increased heart rate. High doses of ketamine can cause drowsiness, paranoia, amnesia, cardiac arrhythmia, convulsions and the user may become comatose.

Repeated use of ketamine may impair some aspects of memory and cognitive functions. Long-term, frequent use of ketamine has also been linked to personality and mood changes including paranoia and egocentrism, reduced ability to concentrate and depression (NSW Health 2010b).

GAMMA-HYDROXYBUTYRATE (GHB) AND RELATED SUBSTANCES

GHB is naturally found in the body in small quantities and may be synthetically produced. First synthesised in the 1920s and developed as an anaesthetic in the 1960s, GHB is a central nervous system depressant with hypnotic, amnesic and sedative effects. GHB is available in powder, liquid, capsule or tablet form. It can be taken orally, injected or snorted (DoHA 2010a).

GHB is readily manufactured from its precursors, gamma-butyrolactone (GBL) and 1,4-butanediol (1,4-BD). Both GBL and 1,4-BD metabolise into GHB in the body, producing identical effects. GBL is reportedly more potent and its effects longer lasting than GHB. Use of these precursors may cause abrupt loss of consciousness, respiratory difficulties, coma and death (Munir et al. 2008). GBL and 1,4-BD are commercially available as industrial cleaning products and used in the production of rubber and plastic (Benzer et al. 2009).

The effects of GHB appear to vary greatly according to the amount used. Low to moderate doses may increase euphoria, libido, memory lapses, drowsiness and lower inhibitions. High doses of GHB can lead to confusion, irritation and agitation, hallucinations, blackouts and memory lapses, seizures, coma, respiratory failure and death. Risks associated with GHB use are exacerbated due to the small difference between ingesting doses that produce the desired effect and overdose (DrugInfo 2010b).

INTERNATIONAL TRENDS

Ketamine is not subject to international controls and widespread illicit use continues in several countries, particularly in East and South-East Asia. In Hong Kong, rates of ketamine use remain high, with the average price per pure gram making ketamine a cheaper alternative to ecstasy and methylamphetamine. Ketamine use is also reportedly growing in India and Europe, particularly in Spain and the UK (UNODC 2010a; INCB 2010).

In surveys of ecstasy users and injecting drug users in New Zealand during 2009, 37 per cent and 33 per cent respectively reported 'in lifetime' use of ketamine. In comparison, the rate of reported GHB use for the same groups was 22 per cent (Wilkins et al 2010).

According to the UNODC, diversion from licit trade remains the primary source of ketamine for the illicit market with numerous seizures in various countries reported over the past couple of years (UNODC 2010b). In December 2009, Indian authorities seized a record 440 kilograms of ketamine powder concealed in bags of iodized salt bound for Malaysia (UNODC 2010a). In September 2009, Hong Kong Customs seized 140 kilograms of ketamine concealed in audio speakers consigned from mainland China (UNODC 2009).

In addition to diversion from the licit market, large-scale illicit production of ketamine also occurs. In 2009, Chinese authorities seized 8.5 metric tonnes of the ketamine precursor hydroxylamine hydrochloride during operations which dismantled 2 clandestine laboratories processing ketamine (UNODC 2010b).

GHB has been under international control since 2001. GBL is considered a ‘non-scheduled drug precursor’ at EU level and is included in the voluntary monitoring scheme for drug precursors. In some countries, such as Italy, Latvia, Austria, Sweden, UK and Norway, control is maintained under national drug legislation. The prevalence of GHB use in the general European population is low, but can be much higher in specific groups, settings and geographical areas. The use of GBL has also recently raised concerns in Europe, with an increasing number of people seeking treatment for addiction to GHB and GBL (UNODC 2010a).

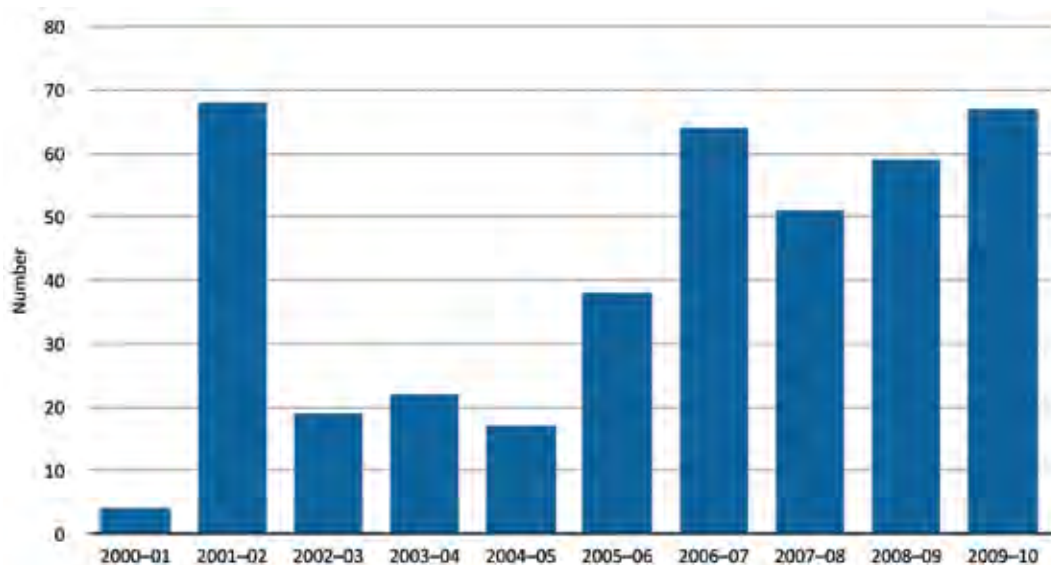
Data from the Monitoring the Future Study indicate that the estimated annual rates of non-medical use of GHB by students in years 8, 10 and 12 are low—0.7 to 1.1 per cent—and have continued to decline since 2000³ (Johnston et al 2010).

DOMESTIC TRENDS


AUSTRALIAN BORDER SITUATION

In 2009–10, there were 67 detections of anaesthetics at the Australian border. This is the highest number of detections at the Australian border since 2001–02 (see Figure 54).

FIGURE 54: Number of anaesthetic detections at the Australian border, 2000–01 to 2009–10 (Source: Australian Customs and Border Protection Service)



³ The first year in which GHB use was queried in the survey.



Ketamine detections remain very low compared to other drugs. In 2009–10, there were 22 detections of ketamine at the Australian border, including 17 in parcel post, 4 in air cargo and 1 in an air passenger’s baggage. This is a 33 per cent decrease from the 33 detections in 2008–09.

GBL is an immediate precursor of GHB and has legitimate uses in industry. While subject to controls, it can be legally imported with an appropriate permit. In 2009–10, Customs and Border Protection detected 44 illegal shipments of GBL. Of these, 31 were in the postal stream, 12 in air cargo and 1 was located in an air passenger’s baggage.

DOMESTIC MARKET INDICATORS

Among regular ecstasy users, the use of both ketamine and GHB/GBL steadily decreased between 2003 to 2009. According to the 2009 study, in the 6 months preceding interview, only 10 per cent of respondents reported ketamine use, while 4 per cent reported GHB use (Sindicich & Burns 2010).

Early findings from the 2010 study of regular ecstasy users suggests a reversal of this trend, with 12 per cent of respondents reporting ketamine use and 6 per cent of respondents GHB/GBL. When discussing such small sample sizes, any interpretation of the results should be made with caution (NDARC 2010a).

PRICE

Law enforcement price data for ketamine and GHB/GBL is limited. In New South Wales in 2009–10, a gram of ketamine powder ranged between \$50 and \$180 and a vial of 5–10 millilitres ranged between \$100 and \$200. The price of a gram of ketamine in South Australia was \$100, an ‘8 ball’⁴ was \$350 and a kilogram was \$28 000.

Nationally, the price for 1–1.5 millilitres of GHB/GBL in 2009–10 ranged between \$3 and \$6. The price for 10–15 millilitres ranged between \$50 and \$80 and a litre ranged between \$2 000 and \$3 000.

PURITY

In a 2009 study of regular ecstasy users, 42 per cent of those who commented on the purity or strength of ketamine, reported it as high, while 15 per cent reported it as low. This differs from 2008, where 54 per cent reported high purity and 4 per cent reported it as low. While these figures indicate a potential decrease in purity, the small sample size means any interpretation should be made with caution (Sindicich & Burns 2010, Sindicich et al. 2009).

AVAILABILITY

In 2009, only a small proportion of regular ecstasy users surveyed were able to comment on the availability of ketamine and GHB, indicating that these drugs are not widely available. A total of 41 per cent of respondents reported that ketamine was difficult to obtain, while 47 per cent reported that GHB was difficult to obtain. Due to the small numbers of respondents, any interpretation of the results should be made with caution (Sindicich & Burns 2010).

4 An 8 ball equates to approximately 3.5 grams.

PHARMACEUTICALS

MAIN FORMS

Most pharmaceutical drugs used for legitimate medical purposes are limited to pharmacist supply and require a prescription for purchase. Despite these controls, misuse of pharmaceuticals can result from self-medication, dependence, dealing with withdrawal symptoms, drug substitution, enhancement of other drugs or the unavailability of a drug of choice. Non-medical use of pharmaceutical drugs can result in serious health risks and can lead to addiction (DoHA 2010b).

Within Australia, pharmaceutical drugs used for non-medical purposes can be obtained through diverse means, both licit and illicit. Motives of use may influence the way in which pharmaceutical drugs are obtained. These include:

- Internet purchases
- dishonestly imitating or overstating symptoms
- doctor-shopping⁵
- poor prescription practices, such as prescribing larger than required quantities
- health practitioners self-prescribing or otherwise misappropriating through their work
- stolen, altered or forged prescriptions
- theft from surgeries or pharmacies (DCPC 2007).

This section focuses on the pharmaceutical drugs most commonly used for non-medical purposes—opioids and benzodiazepines.

Benzodiazepines and opioids are sought for their mood altering, analgesic and euphoric effects (Monheit 2010). Opioids are commonly used in the treatment of pain, while benzodiazepines are commonly used in the treatment of insomnia and anxiety (ADF 2008).

BENZODIAZEPINES

Benzodiazepines have been widely used in clinical settings throughout the world since the 1960s and are among the most widely used prescribed drugs in the western world (NZDF 2009a). They are depressant drugs which slow down the activity of the brain and the central nervous system. Benzodiazepines are a class of pharmaceutical drugs commonly prescribed for insomnia, anxiety and panic attacks (DrugInfo 2010a).

Benzodiazepines usually come in tablet or capsule form and are generally stamped with their name and milligram quantity.

In the short-term, users may feel disinhibited, relaxed, drowsy, confused, moody and can suffer from blurred vision. Long-term effects of use include a lack of energy, nausea, fatigue and depression (NSW Health 2010a).

⁵ 'Doctor-shopping' refers to presenting to numerous doctors for the purpose of obtaining multiple prescriptions to deal with non-existent or exaggerated symptoms.



Some people inject benzodiazepines or use them in conjunction with heroin, alcohol or other drugs. This practise is very dangerous and may result in overdose or death. Injecting benzodiazepines which are intended to be swallowed can also cause severe damage to veins, leading to loss of limbs from poor circulation, organ damage or stroke (NSW Health 2010a).

The main forms of benzodiazepine pharmaceuticals are listed in Table 17.

TABLE 17: Main forms of benzodiazepine pharmaceuticals

Pharmaceutical type	Trade name	User names
Alprazolam	Xanax, Alprazolam, Tafil, Farmapram, Asolan, Traxil, Niravam	Zanies, Zans, Blues, Quad bars, Totem poles, Z bars
Benzodiazepines		Benzos, minor tranquillisers, downers, sleepers
Bromazepam	Lexotan	
Clonazepam	Rivotril	
Diazepam	Valium, Ducene, Antenex, Propam	
Flunitrazepam	Rohypnol, Hypnodorm	Rohies, roofies
Nitrazepam	Mogadon, Alodorm, Dormican, Nitepam	Moggies
Oxazepam	Serepax, Murelax, Alepam, Benzotran	Sarahs
Temazepam	Normison, Temaze, Euhypnos	Footballs, Normies

OPIOIDS

Opioids refer to a range of natural and synthetic drugs that are used for their pain relieving and euphoric effects. Natural opioids include opium and morphine, semi-synthetic opioids include heroin and oxycodone, and synthetic opioids include methadone and codeine (emedicine 2010).

Available in tablet, capsule or liquid form, effects of opioid use include pain relief, mood alteration, respiratory depression, nausea and vomiting (emedicine 2010). Prolonged regular opioid use leads to tolerance and risk of dependence, with opioid overdose the major cause of heroin-related harm in Australia (Conigrave et al 2010).

In Australia there are 2 distinct groups of opioid users. The first relates to individuals who have been treated for chronic non-malignant pain and have progressed to problematic opioid use and dependence. The second group are individuals who use illicit opioids and are accessing pharmaceutical opioids to supplement other drug use (RACP 2009).

Common opioid pharmaceuticals are listed in Table 18.

TABLE 18: Main forms and effects of opioid pharmaceuticals

Pharmaceutical Type	Trade Name	User Names	Comments
Morphine	MS Contin, Anamorph, Kapanol, Morphalgin	M, Monkey, Morph, Miss Emma, Dreamer, Hard Stuff, Greys, Grey Nurse	Main component of opium; powerful narcotic analgesic
Codeine	Panadine Forte, Codral Forte, Dymadon Forte, Codalgin Forte, Mersyndol Forte		An extract of opium which is not as strong as morphine
Oxycodone	Oxycontin, Endone, Oxynorm, Percocet, Roxicodone, Tylox, Percodan	Oxy, Oxies, O.C's, Oxycottons, Oxy 80's, Hillbilly Heroin, Roxies, Percs	A semi-synthetic opioid analgesic similar to morphine
Pethidine		Peth	Synthetic narcotic analgesic' similar to morphine but shorter lasting
Methadone (or Physeptone—tablet form)		Meth, done, metho	Synthetic narcotic analgesic, used in treatment for opioid dependence; predominantly provided in syrup form to patients
Buprenorphine	Subutex, Temgesic	Beup, Mud	Buprenorphine is used to treat withdrawal from heroin; employed in maintenance treatment to block the effects of other opioids (with duration of 24 to 48 hours)

'Homebake heroin' is a crude product manufactured from codeine-based pharmaceuticals. In 2009–10, a total of 4 clandestine laboratories manufacturing homebake heroin were detected in Australia (see *Clandestine laboratories and precursors* chapter).

INTERNATIONAL TRENDS

In the US, the threat posed by the diversion and illicit use of Controlled Prescription Drugs (CPD) is increasing, with many state law enforcement agencies reporting pharmaceutical diversion and use as their greatest drug threat. The US National Drug Intelligence Center (NDIC) has predicted that increased enforcement against illegal pain clinics and the growing number of Prescription Drug Monitoring Programs will increasingly disrupt the supply of CPDs to prescription opioid users who typically acquire these drugs through doctor-shopping and from unscrupulous physicians. The NDIC predicts that as a consequence many users will seek CPDs from other sources, including thefts from pharmacies (NDIC 2010).

Results from the 2009 Monitoring the Future Survey in the US found that prevalence rates for narcotics—predominantly opiates and opiate type analgesics—have remained stable, but historically high among students in years 8, 10 and 12. Across the 3 grades, annual prevalence rates of Oxycontin use were 2 per cent, 5 per cent and 5 per cent respectively (Johnston et al 2010).

Canadians are among the largest global consumers of pharmaceutical opiates. Pharmaceuticals may be obtained illicitly through theft, transit losses, theft of prescription pads, illegal Internet pharmacies and the diversion of pharmaceuticals from domestic distribution channels. The involvement of organised crime groups remains small in comparison to their involvement in other illicit drug markets. Across Canada, prescription drugs such as oxycodone and hydromorphone are being sold as heroin (CISC 2010).



DOMESTIC TRENDS

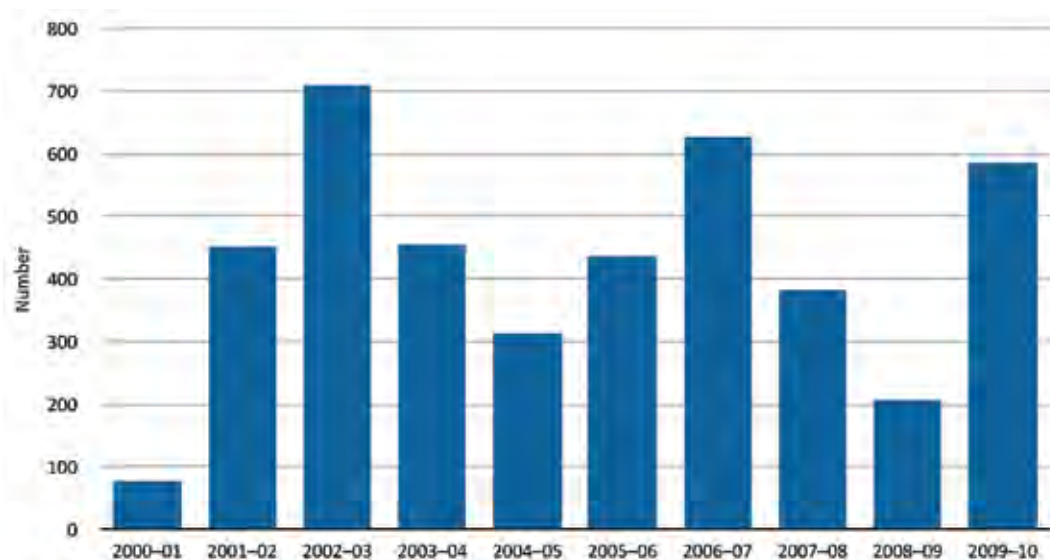
AUSTRALIAN BORDER SITUATION

Prescription pharmaceuticals are primarily imported by individuals without criminal intent (for example, small amounts of various weight loss medications, such as phentermine which is included in amphetamine-type stimulants (ATS) statistics).

Prescription pharmaceuticals continue to be purchased over the Internet due to the anonymity afforded, cheap price and, often, ignorance of the law. With a reported growth in the non-medical use of prescription medications such as benzodiazepines, this trend is expected to continue.

In 2009–10, there were 585 detections of pharmaceuticals at the Australian border. This is an increase of 184 per cent from the 206 detections in 2008–09 (see Figure 55).

FIGURE 55: Number of pharmaceutical detections at the Australian border, 2000–01 to 2009–10 (Source: Australian Customs and Border Protection Service)



Customs and Border Protection detected 582 unauthorised imports of benzodiazepine-based sedatives and tranquillisers in 2009–10, a 213 per cent increase from the 186 detections in 2008–09. The majority of detections during 2009–10 were in the postal stream, which accounted for 519 detections. There were a further 44 detections on air passengers and 19 in air cargo. Most parcels were sent from India, Thailand, the UK and Pakistan. The largest detection during 2009–10 was 1.2 kilograms of tablets from Thailand. The shipment was found inside an air passenger’s luggage in Melbourne on 12 June 2010.

DOMESTIC MARKET INDICATORS

In a 2009 national study of regular injecting drug users, 66 per cent of respondents reported use of any form of benzodiazepines in the 6 months preceding interview (recent use). A total of 42 per cent reported morphine use, a decrease from 50 per cent in 2008, while 30 per cent reported recent use of oxycodone (Stafford & Burns 2010).

In a 2009 national study of regular ecstasy users, 19 per cent of respondents reported use of benzodiazepines and 9 per cent opioid use in the 6 months preceding interview. A total of 33 per cent of respondents reported purchasing codeine over the counter and 19 per cent reported use of illicitly obtained pharmaceutical stimulants (Sindicich & Burns 2010).

The Australian Needle and Syringe Program Survey reported that the proportion of respondents reporting pharmaceutical opioids as the last drug injected increased from 9 per cent in 2005 to 16 per cent in 2009. Pharmaceutical opioids were most commonly reported as the drug last injected in the Northern Territory (49 per cent) and methadone most commonly reported in Tasmania (33 per cent) (NSP 2010).

PRICE

Law enforcement price data for pharmaceuticals obtained for non-medical use is limited. In 2009–10, the price of benzodiazepines pharmaceuticals, purchased for non-medical use, in Queensland remained stable at \$25 per tablet. During this reporting period, South Australia reported the price of 50 tablets of Xanax as \$150.

In 2009–10, the national price of opioid pharmaceuticals, such as Oxycontin, MS Contin and Kapanol, ranged between \$30 in New South Wales and \$100 in the Northern Territory.

The price for 30 millilitres of methadone in the Australian Capital Territory in 2009–10 ranged between \$30 and \$35.

AVAILABILITY

In a national study of regular injecting drug users, 64 per cent of respondents who commented on the availability of illicit methadone reported it as easy or very easy to obtain. This is a slight increase from the 63 per cent in 2008. Of note, the proportion of respondents who described it as very difficult to obtain increased from 3 per cent in 2008 to 9 per cent in 2009 (Stafford & Burns 2010).

In the same study, 70 per cent of respondents who commented on the availability of illicit morphine reported it as easy or very easy to obtain, while 26 per cent reported it as difficult. For illicit oxycodone, 89 per cent of respondents who commented on the availability reported it as easy or very easy to obtain. This is an increase from 58 per cent reported in 2008 (Stafford & Burns 2010).

NATIONAL IMPACT

In 2009–10, the majority of detections of drugs classified as 'other drugs' at the Australian border were through the postal stream. In contrast to 2008–09, there were no large consignments detected in the sea cargo stream. The number of national seizures of drugs categorised as 'other and unknown' increased from 4 199 in 2008–09 to 4 977 in 2009–10. However, the weight of seizures decreased by 87 per cent from 5 311 kilograms in 2008–09 to 678 kilograms in 2009–10. This is largely due to the significant attempted importation of GBL via sea cargo in the previous reporting period.

Anabolic agents and selected hormones constitute the majority of border detections in 2009–10. Detections of these substances continued to increase from 1 878 in 2008–09 to 2 695 in 2009–10 and are now the highest on record. National steroid seizures and related arrests also increased in 2009–10.

The number of tryptamine detections at the Australian border continued to increase, with the 49 detections in 2009–10 the highest recorded in the last decade. The number of national tryptamine seizures has increased steadily since 2005–06 and is currently the highest recorded in the last decade.

In 2009–10, the number of detections of anaesthetics at the Australian border increased and is the highest recorded since 2001–02.

In 2009–10, the number of pharmaceutical border detections increased substantially from 206 in 2008–09 to 585 in 2009–10 and is the second highest recorded in the past decade.

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