

WESTERN AUSTRALIAN TASKFORCE ON BUTANE MISUSE

Report and Recommendations

October, 2006

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Foreword

The Minister for Health established the Taskforce on Butane Misuse in July 2006 following the death of 16-year-old Dayle Koch after she inhaled butane gas.

The role of the taskforce has been to investigate the extent of problems associated with the misuse of butane together with the potential strategies to reduce the supply, demand and harm associated with butane misuse.

The taskforce has comprised senior representatives of key Western Australian agencies. In the course of preparing a thorough analysis of the issues and potential strategies, it has consulted agencies encompassing drug and alcohol and youth services, schools, WA Police, health services and Department for Community Development regional offices. It has also consulted experts in the areas of product safety and regulation, emergency medicine and toxicology. Finally, the taskforce contracted independent outreach workers to speak to young people throughout Perth about their knowledge and experience of butane misuse.

As a volatile substance, butane has many issues in common with various aerosols, paints and glues that are misused as drugs. As such, the taskforce reviewed the available research on volatile substance misuse as well as butane itself where appropriate. As very few local studies have been conducted, national and international research and experience has been considered.

Accordingly, this report comprises a comprehensive investigation into butane misuse, its harms, the prevalence and patterns of use, and the benefits and risks of potential strategies.

A WA Police investigation into the cause of death of Dayle Koch is continuing at the time of the taskforce reporting and will be provided to the State Coroner in due course. While butane is assumed to have been the main cause of this tragic death, other factors that may have contributed, including polydrug use and the absence of an appropriate emergency response, are addressed in this report.

The taskforce's investigations make it clear that volatile substance misuse is a complex phenomenon that requires a multi-faceted response comprising a range of complementary interventions and that priority should be given to sustaining prevention strategies. Moreover, it is clear from contrasting Australian and international experience that some strategies carry risks as well as potential benefits and that these need to be carefully weighed to achieve an effective balance of demand reduction, supply reduction and harm reduction strategies. The key to determining the appropriate balance is to match strategies to the current circumstances in Western Australia.

The taskforce has proposed a ten point plan of action across a range of areas from policing to education and from emergency responses to treatment. While the taskforce has been cautious with strategies that could have the unintended consequence of increasing problems in some areas, it is confident that the recommendations in this report are realistic and practical and, most importantly, that their implementation as a whole will make a difference in reducing the harms caused by butane misuse in Western Australia.

Terry Murphy
Chair
TASKFORCE ON BUTANE MISUSE

Taskforce on Butane Misuse

Terms of reference

The specific terms of reference of the taskforce are:

1. Investigate the prevalence of butane misuse and the incidence of death and injury.
2. Investigate the efficacy of a range of strategies to reduce the supply, demand and harm associated with butane misuse, including but not limited to:
 - legislation and regulation
 - policing
 - voluntary retailer schemes
 - education
 - media coverage
 - product safety
 - emergency and treatment responses.
3. Make recommendations to the Minister regarding appropriate strategies to reduce the supply, demand and harm associated with butane misuse.
4. Provide a report to the Minister outlining the issues arising from the investigations and recommendations for action.

Members

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Executive Summary

Butane is a hydrocarbon, one of over 250 household and industrial products that are potentially intoxicating, found in a range of retail outlets including supermarkets, newsagencies, hardware stores and camping stores. Spray paints and butane gas are the most abused volatile substances and butane is regarded as one of the more harmful.

Cigarette lighter refill cans are the most commonly used butane product and are available for less than \$3 or \$4. Aerosols are also specifically used for the butane propellant and there are a wide range of other butane products including cigarette lighters and portable stoves. Most but not all products contain warnings that they are poisons.

Butane is most usually inhaled directly into the mouth whether from cigarette lighter refill cans, the lighters themselves or aerosols. Butane can also be inhaled indirectly from a container or plastic bag.

While spray paint products are often restricted from customer self service, products containing butane and a variety of aerosol products are generally accessible on shop shelves.

The effects of butane and other volatile substances are, for the most part, rapid and relatively brief in duration. Unless more gas is inhaled, the primary effects wear off after a few minutes. Some secondary effects may last longer. Most long-term effects may be reversible if use ceases. The effects and harms of butane and other volatile substances are summarised below:

Short-term effects	Long-term effects	Chronic use
<ul style="list-style-type: none"> • Euphoria / feeling of well-being • Loss of inhibition • Drowsiness/sedation • Slurred speech/incoherence • Blurred/ double vision • Weakness • Nausea • Vomiting • Headaches • Uncoordinated movements • Loss of short term memory • Aggression • Confusion • Hallucinations • Possible loss of consciousness from overdose 	<ul style="list-style-type: none"> • Chronic headache • Sinusitis • Diminished cognitive function • Ataxia (lack of muscle coordination) • Chronic or frequent cough • Tinnitus • Chest pain or angina • Nosebleeds • Extreme tiredness or weakness • Increased nasal secretions • Red, watery eyes • Depression and/or anxiety • Shortness of breath • Indigestion • Dizziness • Stomach ulcers 	<p>Chronic users may experience withdrawal symptoms and/or hangover effects. These may persist for several days and be characterised by:</p> <ul style="list-style-type: none"> • Tremor • Headache • Nausea • Vomiting • Mild abdominal pain • Loss of appetite • Fatigue • Muscular cramps • Delirium / illusions • Sleep disturbances • Sweating • Irritability • Depression

The Western Australian results of the 2005 triennial survey of school student drug use indicate that 0.8% of all 12 to 17 year old students reported misusing butane in the past year. 12% of 12 to 15 year olds and 5% of 16 and 17 year olds reported misusing any volatile substance in the past year with much lower levels doing so in the last week, 4% of 12 to 15 year olds and 2% of 16 and 17 year olds. The results of the 2004 household survey of persons aged 14 and over indicate 3.2% misusing volatile substances in a year.

To gain a more thorough picture of the nature and extent of butane misuse in Western Australia, the taskforce consulted agencies providing drug and alcohol and youth services, schools, WA Police, health services and Department for Community Development regional offices across the state. The taskforce also contracted independent outreach workers to speak to young people throughout Perth about their knowledge and experience of butane misuse.

Agencies throughout Perth and the rest of the state almost invariably reported that they had not encountered butane misuse with the exception of limited anecdotal evidence of misuse occurring in Canning, Mandurah/Peel, the Wheatbelt and Geraldton.

Swan Youth Service in Midland is the only agency in Perth that regularly sees and works with young people who misuse volatile substances. Their 35 to 40 clients, from a broader area, use paint products regularly but around 75% also purchase butane, and toluene glues, on pay days for a 'stronger high' after the tolerance developed from regular use of paint. These young people also reported that there were taxi and bus drivers and houses in a number of areas that are providing paint and other volatile substances in exchange for sexual favours.

Young people in central Perth who could be characterised as belonging to a distinct sub-culture, not engaged in education and unemployed, who spoke of family problems and were perhaps homeless indicated that butane use was widespread among their peer group but not on a chronic basis. All of these young people were familiar with the death of Dayle Koch and reported that this had affected their own misuse of butane and they had since been discouraging its misuse by their peers.

In north metropolitan Perth young people, most of whom were attending school and who had used cannabis and alcohol, reported being familiar with butane but none had experimented and did not know of others who had done so.

In east metropolitan Perth outside of Midland, the young people, who did not acknowledge any personal drug use, reported knowing of others who misused volatile substances, and specifically identified glue, paint, and petrol being sniffed from bags and bottles. Around half knew of butane. In Midland, eleven indigenous young people provided information consistent with Swan Youth Service clients and outreach workers noted discarded butane canisters and paint cans in the vicinity.

In south metropolitan Perth in Fremantle the overwhelming feedback was that the young people had never tried inhaling butane, had never witnessed anyone doing so and although they reported being aware that it occurred, were not sure by whom, how it was used and what the actual effects were.

In south east metropolitan Perth in Armadale just over half of the young people approached, most of whom were attending school, had heard of others using butane and a few indicated that they actually knew someone who had done so. Many within the 16 to 18 year age group were familiar with butane but the majority of the younger people were not.

The survey data and outreach information together are consistent with butane misuse, and most other volatile substance misuse, being experimental with some significantly higher levels of use occurring episodically or as a 'fad' in particular areas. This has been the pattern of most volatile substance misuse in Western Australia over time, with chronic use limited to a small number of young people in Perth and a few remote Aboriginal communities.

Both the outreach investigations and the survey data, however, point towards higher levels of awareness of butane misuse than may have previously been recognised, although this is not universal and it is equally clear that there remains a substantial amount of naivety among young people in general.

Data from Western Australia, like the United Kingdom, indicate that the majority of volatile substance misuse related deaths can be attributed to butane.

The Drug and Alcohol Office's coronial database identifies three deaths occurring between 1997 and 2005 that were directly attributed to butane misuse in Western Australia, all were males and were of the ages 13, 17 and 24 years. A further case for which a verdict is not yet available occurred in 2005 involving a 13 year old male where butane was detected by toxicological analysis.

In the United Kingdom in the period from 1997 to 2004 there were 433 deaths attributable to butane misuse.

The taskforce examined both existing legislation and the potential for new legislation to control the supply of butane.

The *Protective Custody Act 2000* authorises police to apprehend intoxicated persons and return them to their home or place them in 'an authorised facility' as well as seize and destroy the substance. The *Children and Community Services Act 2004* enables police officers to move children at risk to a safe place.

The Western Australian Criminal Code covers the supply of volatile substances under Section 206, "supplying intoxicants to people likely to abuse them". In the last year, there have been a total of 11 charges preferred against 5 persons and all pleaded guilty as charged. All offences occurred within Aboriginal communities and involved family or friends. The section has not been used to prosecute retailers and although this could occur it would be difficult given a requirement to prove intent. Nevertheless, the taskforce

considered that the criminal code provision is a valuable tool for informal policing that involves visiting retailers to make them aware of their responsibilities when a problem has been identified by local agencies or community groups.

The more vexed issue is whether the sale of butane, or other volatile substances, should be restricted to people over a certain age. In the United Kingdom the sale of butane lighter refills is prohibited to persons under 18 years of age. Its impact on deaths has not been clear. In 2000, the first full year of reporting after the legislation was introduced in 1999, there was a significant decrease in deaths. However, the number of deaths rebounded to the pre-legislation levels in the subsequent two years, 2001 and 2002. Thereafter, in 2003 and 2004 deaths have again fallen in conjunction with a general fall in volatile substance misuse deaths. In the years preceding and after the introduction of the legislation, the proportion of deaths attributable to butane has remained consistently around 80%, indicating that a range of factors are likely to be affecting the overall levels of volatile substance misuse and mortality.

Considering the issue in 2005, the United Kingdom Department of Health and the Home Office concluded that the evidence is equivocal and that if the ban helped to reduce the death toll it was not necessarily for a sustained period and moreover that the outcomes illustrate that several strategies must be implemented simultaneously in order to effect a long lasting change in behaviour.

The taskforce debated this issue on multiple occasions and considered the arguments to be finely balanced between the potential benefits of restricting supply to some extent and the risks of advertising the potential for butane to be used as a drug and possibly encouraging predatory adults to supply the product to young people. The fact that butane misuse and mortality is substantially lower than in the United Kingdom is a key issue in assessing whether the risks may outweigh the potential benefits.

The taskforce concluded that legislation to restrict the sale of butane to minors would not be recommended at this time. However, the issue should be actively monitored and formal advice to the Minister for Health be provided again in 12 months based on whether the extent of butane misuse has moved beyond being a localised and episodic phenomenon.

Both in Western Australia and throughout Australia, there have at different times been significant efforts to restrict the supply of volatile solvents through voluntary retailer schemes. The approach has been successful in significantly reducing though not eliminating volatile substance misuse in the Midland area.

The application of voluntary schemes needs to be actively promoted to be effective. The Drug and Alcohol Office together with the network of community drug service teams, working locally with WA Police where that is appropriate, have a key role in this respect. The taskforce considers that these efforts need to be redoubled.

The Retailers Association of WA has indicated that it supports this approach to restricting supply, specifically by removing butane products from self service, keeping them behind the counter or in locked cupboards, thereby requiring a deliberate interaction between staff and customers.

The taskforce also considered in depth the extent to which school and community drug education should cover butane and other volatile substance misuse. There is currently a clear consensus in Australia, reflected in a range of national and state policies and strategies, that the issue should not be part of mainstream school drug education nor the focus of community campaigns. The United Kingdom and parts of the USA take the opposite approach.

The rationale behind this approach throughout Australia is that educating young people about substances that are cheap and easily accessible and about which they have little current knowledge risks sparking interest in their misuse and consequently increasing the levels of experimentation. It is widely argued that this is an evidence based approach. However, a thorough search by the taskforce for the primary research located a clear description of only one study, from New Zealand. While this study is consistent with the Australian policy consensus, it appears that the approach is based on the repeated enunciation of basic behavioural principles rather than a significant body of research evidence.

The issue turns on whether the current approach in Western Australia is consistent with the extent of butane and other volatile substance misuse and young people's awareness. The prevalence of experimentation, episodic misuse and the extent of knowledge identified by the taskforce argue for some adjustment. This, however, needs to be tempered by the low rate of students reporting experimentation with butane specifically and the still considerable proportion of young people who remain naïve about butane.

As such, the taskforce's view is that school drug education on volatile substance misuse including butane should occur when groups of students are at risk by virtue of a local outbreak or 'fad', or where there is widespread

knowledge and discussion of the issue by young people. The information from key agency informants and outreach investigations indicates that at the current time this is likely to be the case in Midland and to a lesser extent Armadale.

The complexity in this approach is for schools to be able to know when there is localised volatile substance misuse occurring and knowledge among students. In order to facilitate this, monitoring and reporting systems that draw on key informants including young people themselves will need to be further developed and maintained and linked to the School Drug Education and Road Aware regional organising committees.

Specific volatile substance misuse resources that cover butane as well as other substances, will need to be developed for schools. These resources should continue to emphasise that these products are poisons and hazardous chemicals as this approach provides some protection against glamourising them as drugs.

The taskforce also considers that a resource should be developed for parent education for general use in a range of settings and that, as with the approach for school drug education, specific education initiatives should occur where there are similar indications of risk.

The taskforce also recognizes that existing professional education activities would benefit from greater content focusing on butane specifically, and a more proactive approach that engages key agencies and supports local partnerships.

Media coverage faces the same issues and has been described by the Victorian Parliament Drugs and Crime Prevention Committee as often highly problematic, liable to cause local hysteria and cause or escalate local outbreaks of abuse by raising young people's awareness of products and inhalation methods. This is not a new issue. A 1985 Senate select committee made the same observations and produced guidelines that still provide a clear and succinct statement on appropriate media coverage. The Australian Press Council guidelines for reporting drug and substance use issues provide a sound context for these more specific volatile substance misuse guidelines.

The taskforce considers that a policy of restraint that has been widely applied to reporting suicides in Australia is also warranted with respect to butane and other solvent misuse.

Various reviews have proposed ways of reducing the abuse potential of volatile solvent products. Work is being undertaken by CSIRO and its outcomes should be monitored.

The importance of seeking assistance in emergency situations cannot be overstated. Not acting or delaying acting can mean the difference between life and death.

St John Ambulance does not call police to overdose incidents unless there has been a death or there is violence. WA Police policy formally supports the approach of not attending overdose incidents. Similarly, the correct basic first aid approach can be reduced to very simple behaviours, 'breathe into the person until the ambulance arrives'.

The taskforce considers that it is imperative to promote vigorously a wide range of opportunities to spread the message to seek ambulance assistance immediately in the case of drug overdoses, and to increase knowledge regarding the signs, symptoms and dangers of overdose together with basic first aid responses.

There are services throughout the state that can assist people who have problems with volatile substance misuse. The key agencies are the community drug service teams. The teams are also the appropriate agencies to lead community interventions and work with retailers and police to restrict supply. The absence of young people and families seeking assistance indicates that there is some need to offer a different approach in communities where that is warranted and for families particularly to be more aware of avenues for support.

While the taskforce has been able to gain a fairly comprehensive picture of butane and other volatile substance misuse in Western Australia, covering prevalence, patterns of use and mortality, this has required dedicated investigations that are not part of regular practice or data collection systems. Systems to monitor the occurrence of local 'fads' to inform school and parent education should be further developed and maintained, as should the Drug and Alcohol Office's coronial database.

The effective implementation and the impact of the recommendations developed by the taskforce require clear responsibility and a dedicated co-ordination role in the Drug and Alcohol Office. The agency should allocate a full time position for the next one to two years to co-ordinate the implementation of the taskforce recommendations and oversee the broader WA Volatile Substance Use plan.

The taskforce has proposed a ten point plan of action across a range of areas with detailed recommendations in each.

- 1. Legislation - to police supply effectively**
- 2. Policing - to support local communities**
- 3. Voluntary retailer action – to restrict supply**
- 4. Education - targeted for young people, parents and professionals**
- 5. Media coverage - to avoid inadvertently advertising products for misuse**
- 6. Product safety - monitoring opportunities for improvement**
- 7. Emergency responses - vigorously promoting the right responses by young people**
- 8. Treatment - available when it is needed**
- 9. Monitoring and research - to target strategies**
- 10. Organisation and co-ordination - to ensure action occurs**

Summary of Recommendations

1. Legislation - to police supply effectively

- Increase the use of the provisions of the Criminal Code prohibiting the supply of volatile solvents for abuse, particularly to support informal policing to restrict the supply of butane and other volatile solvents.
- Monitor the appropriateness of legislation to restrict the sale of butane to minors. Although not recommended at this stage, the Drug and Alcohol Office to formally revisit the issue in twelve months and provide further advice to the Minister for Health in the light of the circumstances in Western Australia at that time.

2. Policing - to support local communities

- Provide expanded professional education for police that provide greater content on butane specifically, encompass dealing with acute intoxication, current available legislation and how it can be utilized, and supports local partnerships.
- Conduct visits to retailers to make them aware of their responsibilities when a problem with butane or other volatile substance supply has been identified either by police, local agencies or community groups.

3. Voluntary retailer action – to restrict supply

- Renew and actively promote the *Retailers Acting Against Solvent Use Resource Kit* including the *Voluntary Code of Practice* for use in various communities and outlets.
- Provide training and support for retailers where appropriate.
- Alert retailers to outbreaks or 'fad' products through the Retailers Association of WA.

4. Education - targeted for young people, parents and professionals

- School drug education on volatile substance misuse including butane to occur when groups of students are at risk by virtue of a local outbreak or 'fad' or widespread knowledge and discussion of the issue by young people.
- Specific volatile substance misuse resources that cover butane as well as other substances, be developed for schools. Resources should emphasise that these products are poisons and hazardous chemicals.
- Link monitoring and reporting systems that identify local outbreaks or 'fads' to the School Drug Education and Road Aware Regional Organising Committees.
- Develop a resource for parent education for general use in a range of settings
- Provide specific parent education initiatives where there is a local outbreak or 'fad' or widespread knowledge and discussion of the issue by young people.
- Provide professional education activities with greater content on butane specifically, and that emphasise a more proactive approach to engage key agencies and support local partnerships.
- Develop a resource to support action by professional agencies.

5. Media coverage - to avoid inadvertently advertising products for misuse

- Adopt and promote the media guidelines developed by the Senate Select Committee on Volatile Substance Fumes.
- Provide appropriate support to media organisations to implement the guidelines on volatile substance misuse.

6. Product safety - monitoring opportunities for improvement

- Monitor the outcome of current CSIRO studies into product modification for butane and other volatile solvents.

7. Emergency responses - vigorously promoting the right responses by young people

- Develop and sustain a variety of strategies to promote appropriate emergency responses by young people including seeking ambulance assistance, being aware of overdose and applying basic first aid.

8. Treatment - available when it is needed

- Reinforce the role of community drug service teams as the key provider of treatment for volatile substance misuse with a view to developing more proactive approaches to engage users in conjunction with the teams' prevention and community partnership role.

9. Monitoring and research - to target strategies

- Develop and maintain local reporting systems based on the key informant and outreach investigation approach undertaken by the taskforce.
- Develop further the Drug and Alcohol Office's coronial database to regularly and accurately report butane and other volatile substance misuse related mortality, and provide this information to other jurisdictions with a view to promoting compatible data collections in other Australian jurisdictions.
- Develop a more detailed study of the nature of volatile substance misuse for a cohort of students completing the Australian School Students Alcohol and Drug survey.

10. Organisation and co-ordination - to ensure action occurs

- Allocate a full time position at the Drug and Alcohol Office for at least the next one to two years to co-ordinate the implementation of the recommendations of the taskforce and oversee the implementation of the broader WA Volatile Substance Use plan; and put in place supporting arrangements across treatment, prevention and professional education areas.
- Support the WA Police, School Drug Education and Road Aware and community drug service teams to lead the local implementation of relevant recommendations.
- Engage the broader network of state human service agencies to participate as appropriate through the WA Drug and Alcohol Strategy Senior Officers Group.

CHAPTER 1: Nature, accessibility and effects

1. *The nature of butane and other volatile substances*

Butane is a volatile substance. Misuse of volatile substances is described as the deliberate inhalation of a substance to achieve a change in mental state (United Kingdom Home Office 1995).

Volatile substances include any substance that produces a vapour at room temperature. Over 250 household and industrial products, acknowledged to be potentially intoxicating, can be found in a range of retail outlets including supermarkets, newsagencies, hardware stores, camping stores (Victorian Parliament Drugs and Crime Prevention Committee 2002).

Volatile substances can be categorised based according to the National Institute on Drug Abuse of USA (2005) classifications:

- Volatile solvents – liquids or semi-solids that vaporise at room temperature that commonly contain toluene and xylene (eg, glues, petrol, paint thinners).
- Aerosols – sprays that contain solvents and hydrocarbon propellants such as butane and propane (eg, spray paint, hairspray cooking oil sprays).
- Gases – household and commercial products containing gas fuels such as butane cigarette lighters and lighter refill cans, bottled domestic gas and cylinder propane gas. Also medical anaesthetics such as ether, chloroform, halothane and nitrous oxide.
- Nitrites – amyl nitrite and butyl nitrite primarily used as sexual enhancers.

Butane is a hydrocarbon and a highly flammable, colourless, odourless, easily liquefied gas. It is typically used as fuel for cigarette lighters and portable stoves, as a propellant in aerosols, as a heating fuel, as a refrigerant, and in the manufacture of a range of products. Butane is also found in Liquefied Petroleum Gas (New Jersey Department of Health 2006).

In 1987, the Montreal Protocol to Reduce Substances that Deplete the Ozone Layer commenced the move away from chlorofluorocarbons (CFCs). As a result butane or hydrocarbons have replaced CFCs as the propellant used in most aerosols. Therefore butane can be found in numerous aerosol products (United Nations 1987).

For the purposes of its misuse, cans of lighter refills are the most commonly used product, however, aerosols are also specifically used for the butane propellant. For the purpose of the latter, the butane is extracted in such a way as to inhale the propellant rather than the content of the aerosol. One example of this is the popularity of *Pure & Simple* aerosol vegetable oil cooking sprays in the early 1980's in Perth among volatile substance users. (Rose, 2001).

The packaging of most aerosols identifies the propellant as 'hydrocarbon', not specifically butane. Whether it is known to most users or not that butane is a hydrocarbon and that this is the reason they choose to use aerosols is unclear. A range of aerosol products is commonly misused including hairspray, deodorants, fly spray and spray paints. Such products may also be used for the intoxication achieved from their solvent base, although the earlier popularity of vegetable oil cooking sprays suggests that it is the propellant rather than the product that is sought after by users.

Butane is most usually inhaled directly into the mouth whether from cigarette lighter refill cans, the lighters themselves or aerosols. Butane can also be inhaled indirectly from a container or plastic bag.

2. *Availability and accessibility of butane*

There are no restrictions on the sale of butane products in WA. Various products can be obtained from a range of retailers such as supermarkets, hardware stores, newsagents, and tobacconists and in some instances from outlets such as delicatessens and discount retail outlets. It can also be purchased via numerous internet sites.

The Youth Affairs Council of Victoria (2002) reflects the widespread view that volatile substance misuse is predominantly confined to younger age groups because of the ease of availability and that young people will tend to move onto other drugs once accessibility to those increases, most notably alcohol.

The taskforce conducted an investigation of a sample of hardware stores, supermarkets and tobacconists that sell butane in order to determine the ease of access to products. The cost of butane in regular retail outlets varied from just under \$3 to up to \$15 depending on the outlet and the product. The cost of a 220ml or 250ml can of lighter refill varied from just under \$3 at a hardware store to \$5.50 at a tobacconist. Some products of similar size cost up to \$15 in the hardware store due to either a variance in quality or alternate uses for the product. One example is a 370ml Propane Butane Mixture called 'Powergas' which was available for just under \$10 in a hardware store.

The National Inhalant Abuse Taskforce (NIAT, 2005) has argued that considering an average purchase of alcohol would be around \$10 to \$15 and cannabis around \$25, the cost of butane and aerosol products for under \$3 or \$4 could be seen as attractive to young people with limited resources. Availability and cost appear to be key factors in young people's choice of inhalant products, with spray paints and butane gas being the most abused volatile substances.

Although most hardware stores had spray paint products displayed behind locked cages, the products containing butane and a variety of aerosol products were easily accessible on the shelves. In the tobacconists and supermarkets visited, all butane products were out of reach to customers; mostly behind counters. This seemed to be more by default than design as butane is not often identified as a product requiring restricted access. In contrast, spray paints have been actively targeted by a number of local retailer accords. The motivation for this is threefold; to reduce accessibility to volatile substance misusers, to reduce the theft of these products and reduce graffiti.

Of the products available and easily accessed, the investigation found no consistency in warnings regarding the dangers of deliberately inhaling the product. However, many products had the standard message of: "Intentional misuse by deliberately concentrating or inhaling contents can be harmful or fatal". Many imported products did not have such warnings.

An international classification system for the transport of dangerous goods exists to facilitate ready identification (Civil Aviation Safety Authority 2006). All dangerous goods are included in one of nine primary classes. In some cases it has also been necessary to sub-divide some of the classes into divisions in order to provide adequately for the dangers of the individual goods. There is a label for each class/division to categorise the nature of the hazard. These labels must be affixed to the outside of the package when it is offered for transport and must remain on the package while it is in transit. Butane comes under two classes:

Class 2 Gases - transported as compressed, liquefied, refrigerated liquefied or gas in solution, including aerosols.

Class 3 Flammable liquids - includes liquids with a boiling point of 35 degrees C or less or a flash point of 60 degrees C or less.

3. *Effects of volatile substance misuse including butane*

The way a person experiences any substance misuse depends on the substance itself (e.g., how much is taken, type of substance, method of administration); individual factors (e.g., gender, age, health, attitudes, beliefs, previous experience, mood) and environmental factors (e.g., time of day, place, with whom, cultural context).

The documented effects of volatile substance misuse are generic to a wide range of these substances and encompass butane. In summary, volatile substances are central nervous system depressants with effects similar to alcohol together with some hallucinatory effects.

The effects are, for the most part, rapid and relatively brief in duration. The effects peak within one to five minutes and last from between five to ten minutes. Rapid onset of effects is due to high lipid solubility which allows for rapid absorption from the lungs into the blood stream. Unless more gas is inhaled, the primary effects wear off after a few minutes.

Some secondary effects may last longer. Generally, this is for a further 10 to 45 minutes upon cessation of sniffing although in some cases where large amounts have been inhaled over a period of time, some effects may last up to one hour after the last dose. The fat soluble nature of the substances, and the consequent storage of compounds in fat deposits, particularly in the brain, may lead to some prolonged impact on the level of consciousness even hours after the inhalation has stopped including an alcohol-like hangover (Western Australian Drug Strategy Office, WADASO 1998).

There is only limited research information about the long-term effects of chronic volatile substance use but there is a general view that most long term effects may be reversible if use ceases.

The short term, long term and potential effects of chronic use are summarised below:

Short-term effects	Long-term effects	Chronic use
<ul style="list-style-type: none"> • Euphoria / feeling of well-being • Loss of inhibition • Drowsiness/sedation • Slurred speech/incoherence • Blurred/ double vision • Weakness • Nausea • Vomiting • Headaches • Uncoordinated movements • Loss of short term memory • Aggression • Confusion • Hallucinations • Possible loss of consciousness from overdose <p>(Drug and Alcohol Office 2005)</p>	<ul style="list-style-type: none"> • Chronic headache • Sinusitis • Diminished cognitive function • Ataxia (lack of muscle coordination) • Chronic or frequent cough • Tinnitus • Chest pain or angina • Nosebleeds • Extreme tiredness or weakness • Increased nasal secretions • Red, watery eyes • Depression and/or anxiety • Shortness of breath • Indigestion • Dizziness • Stomach ulcers <p>(Commonwealth Department of Human Services and Health 1984)</p>	<p>Chronic users may experience withdrawal symptoms and/or hangover effects. These may persist for several days and be characterised by:</p> <ul style="list-style-type: none"> • Tremor • Headache • Nausea • Vomiting • Mild abdominal pain • Loss of appetite • Fatigue • Muscular cramps • Delirium / illusions • Sleep disturbances • Sweating • Irritability • Depression <p>(Commonwealth Department of Human Services and Health 1984)</p>

CHAPTER 2: Prevalence and patterns of misuse

1. *Prevalence of butane and other volatile substance misuse*

The Australian School Students Alcohol and Drug Survey (ASSAD) is a triennial survey conducted nationally and providing results for each state and territory. The aim of the survey is to provide up to date data describing the prevalence of smoking, drinking and other drug use among school students aged 12 to 17 years.

Students are asked three questions relating to volatile substance misuse:

- how many times, if ever, they have deliberately sniffed (inhaled) from spray cans or sniffed things like glue, paint, petrol, or thinners in order to get high or for the way it makes them feel;
- the substances sniffed including butane; and
- the settings in which this occurred, such as home, in a park, with friends.

The 1995 ASSAD survey has included the questions regarding specific substances and settings for the first time. The results of this survey in Western Australia indicate:

- 0.8% of all 12 to 17 year old students reported misusing butane in the past year;
- just over 4% of 12 to 15 year-olds and 2% of 16 and 17 year-olds reported misusing any volatile substances in the last week;
- 7% of 12 to 15 year-olds and 3% of 16 and 17 year olds reported misusing volatile substances in the last four weeks;
- 12% of 12 to 15 year olds and 5% of 16 and 17 year olds reported misusing volatile substances in the past year; and
- 17% of 12 to 15 year olds and 8% of 16 and 17 year olds reported misusing volatile substances in their lifetime.

The National Drug Strategy Household Survey (Draper and Serafino 2005) surveys a representative sample of the whole community. The Western Australian results of the survey undertaken in 2004 indicate:

- 3.2% of persons aged 14 years and older reported misusing volatile substances. This represented around 51,300 people;
- twice as many males (4%), than females (2%) reported misusing volatile substances; and
- persons aged 14 to 19 years had the highest proportion of recent users (2%)

These findings, particularly the high levels of reported misuse in the school student survey, require further research to understand the exact nature of the misuse. However, the differences in recent, annual and lifetime rates are generally considered to be consistent with literature that suggests much volatile substance misuse is experimental, commonly from the ages of 12 to 15 years and that it steadily decreases with age. The very low rate of reported butane misuse, less than 1% among school students is noteworthy.

2. *Patterns of misuse*

The National Inhalant Abuse Taskforce (2005) asserts that most volatile substance misuse is experimental, with the majority of users ceasing use after a short period of time and only a small percentage continuing on to long term or chronic use. Rose (2001) further explains that research suggests that volatile substance misuse is episodic and tends to occur in cycles with different products being abused in localized 'fads'.

Volatile substance misuse is generally described as experimental, social or chronic. Experimental use is characterised by being one-off or on a few occasions due to curiosity; often as a substitute for other drugs. Social use occurs within the context of a group activity and tends to reflect local 'fads'. It is most often perceived as fun and enjoyable and is not perceived by users to have a dramatic negative impact. Long-term, dependent or chronic use may involve daily use and is often associated with familial, social and/or psychological problems, many of which precede the volatile substance abuse. The long-term dependent user may also be inclined to use alone and in isolated circumstances, or tend to the company of other long-term users only (WADASO 1998).

The National Inhalant Abuse Taskforce (2005) also reports that national household survey data indicate that much volatile substance misuse, almost two thirds, occurs in conjunction with other substances such as cannabis and alcohol.

Throughout Australia, volatile substance misuse occurs across all socio-economic groups and is an issue for both Aboriginal and non-Aboriginal communities. It occurs in urban, regional and remote areas, but is more likely to occur in metropolitan rather than regional locations. Males are more likely to use than females and Indigenous people are almost twice as likely to use compared with the general population. Much of the research indicates that use of inhalants, particularly chronic use, is more prevalent among those who are marginalised, disenfranchised, have family dysfunction and/or those with mental health problems, and this pattern is reflected in some remote Aboriginal communities (National Inhalant Abuse Taskforce 2005).

Young people report choosing inhalants over alcohol or other types of drugs because they are accessible, relatively cheap, purchased legally and provide speedy intoxication. Other general reasons apply to all drug abuse and include to having fun, to get high, to be part of a group and to deal with problems or cope.

With respect to butane specifically, Dr John Ramsey of St George's Hospital Medical School, London, a leading expert on volatile substance abuse in the United Kingdom, succinctly explained to the Victorian Parliament Drugs and Crime Prevention Committee (2002) why butane is the predominant form of inhalant misuse in Britain: "I think the prime advantage to a youngster with butane is that you can leave school at 3.30, you can be bombed out of your mind at 4 o'clock and stone cold sober again at 5, now you can't do that with any other intoxicant. So as a teenage intoxicant, butane couldn't be better designed really. It is in these convenient packs, 250 ml packs for a pound that you can carry around with you. You can get the gas out by clenching the nozzle between your teeth; it is the absolute ideal intoxicant for a 15 year old. That is the problem we have, I think."

3. Consultation into prevalence and patterns of butane misuse

In order to gain a comprehensive picture of the extent and nature of butane misuse in Western Australia, the taskforce consulted key agencies and services across the state. It also initiated outreach investigations involving professional youth workers speaking to young people in a range of public settings in Perth metropolitan corridors.

Agencies and services that provided a statewide perspective were WA Police (alcohol and drug advisors); St John Ambulance Service; and the Drug and Alcohol Office's youth justice diversion program, Alcohol and Drug Information Service and Parent Drug Information Service.

Agencies and services that provided local perspectives from metropolitan and country regional areas were: community drug service teams; various youth services; School Drug Education and Road Aware regional organising committees; Department for Community Development regional offices; local governments; WA Health public health services; and juvenile justice teams managed by the Department of Corrections.

3.1. State-and metropolitan wide

WA Police alcohol and drug advisors reported that they had not encountered butane misuse throughout the state, including in remote communities.

The St John Ambulance service does not collect specific data on butane or other volatile substance related call outs and thus could not provide definitive advice, however, their overwhelming impression was that they did not generally experience butane related call outs.

The Alcohol and Drug Information Service and the Parent Drug Information Service receive between two and five volatile substance misuse related calls per month. Butane specific data is not recorded but counsellors could not recall any butane specific calls.

The Drug and Alcohol Office's youth justice diversion program, Young People's Opportunity Program, is implemented through juvenile justice teams in Midland, Perth, Fremantle, Thornlie, Victoria Park, Wangara, Mandurah, Geraldton, Kalgoorlie, and Port Hedland. It is an early intervention program that targets young people aged 10 to 18 years, who may be charged with a non-drug-related offence and have been identified by a juvenile justice team coordinator as having a significant drug issue. Of the 435 young people seen since its inception in 2004, thirteen identified solvents as their drug of choice. A manual search of these clients' files found that none of them identified butane as the solvent.

The School Drug Education and Road Aware regional organising committees that comprise teachers and community representatives from the region reported that butane misuse was not known to be an issue for school populations in any regions.

Outreach investigations included speaking to a group of approximately 20 young people ranging in age from 15 to 21 years who regularly 'hang out' in the Forrest Chase area of Perth city. These young people who frequent this vicinity were from all over the metropolitan area and can be characterised as belonging to a distinct sub-culture. Most of this particular group of young people were not in engaged in education, were unemployed and spoke of family issues and other problems from which they were keen to "escape". Many were also homeless or lived in youth accommodation hostels where drug use was not allowed.

This group advised that butane use was widespread among their peer group but not at a chronic level such as daily use. They reported that butane was easy to access from supermarkets or hardware stores. It was described as a 'cheap high', often chosen as an alternative when they could not access cannabis due to lack of funds or availability. Boredom was identified as a reason for use. One young person summed up the pattern as: "for \$5 you can get high for the day when there's nothing else to do". Significantly, all of these young people were familiar with the death of Dayle Koch and this had affected their own misuse of butane and they had since been discouraging misuse by their peers.

3.2. North metropolitan Perth

The North Metropolitan Community Drug Service Team advised that butane was not an issue they encountered.

WA Health public health services reported that they had no evidence to provide regarding butane misuse.

Department of Corrections juvenile justice officers in Joondalup and Wangara reported that butane misuse was not an issue.

Outreach investigations involved speaking to a substantial number of young people in the Joondalup, Clarkson and Whitfords areas at shopping centres, skate parks, cinema complexes and train stations. They ranged in age from 14 to 18 years. Most were attending school.

All of the young people reported being familiar with butane and that it was used for intoxication. All were aware that butane was responsible for the death of Dayle Koch. However, none of the young people approached had experimented with butane and reported that they did not know of others within their peer groups who had done so.

Many of the young people admitted to using or having experimented with alcohol and cannabis and believed butane or "sniffing" in general to be more of an indigenous issue. They also associated it with polydrug abuse, as explained by one young person who commented that an acquaintance who "tried everything" had probably used butane.

3.3. East metropolitan Perth

The East Metropolitan Community Drug Service Team did not report working with any young people misusing butane or other volatile substances.

Swan Youth Service in Midland is the only agency in Perth that regularly sees and works with significant numbers of young people who misuse volatile substances. The agency regularly sees around 35 to 40 young people. Staff advised that their clients use paint regularly, but are choosing to purchase either butane or toluene glue on pay-days for a 'stronger high' after the tolerance developed from regular use of paint. Staff estimated that 75% of these young people would use butane in this way. The taskforce was also informed that there are reports from the young people of taxi and bus drivers and houses in a number of areas that are providing paint and other volatile substances in exchange for sexual favours.

Outreach investigations involved collecting information from 37 young people between the ages of 12 and 17 years in locations from Midland through to the Morley area. Nine indigenous adults as well as youth workers, security personnel and a community safety officer were also consulted.

Outside of Midland, none of the young people spoken to acknowledged any personal drug use, but reported knowing of other people that misused volatile substances. When questioned, they specifically identified glue, paint, and petrol as substances being sniffed from bags and bottles. When questioned regarding butane,

only a small number knew of people who misused it, but at least half knew of its existence. Some added they had seen people sniffing from cigarette lighters. Harms associated with butane use were unknown.

In Midland, eleven indigenous people aged between 16 and 28 years-of-age were approached. They spoke of preferring to consume alcohol on a daily basis but when funds were low they sniffed glue and paint. They reported that they would use butane to overcome the tolerance they had to the effects of the paint and stated this was at least once per week. When asked where they purchased the glue and paint they indicated it was from a local major hardware retailer and discount variety store. They spoke of purchasing the butane from local supermarkets and made mention that none of the retailers questioned them as to the proposed use for these substances. The outreach workers noted five discarded butane canisters as well as paint cans (amongst other litter) in the vicinity.

Shopping centre security personnel and some youth service workers demonstrated a lack of knowledge regarding volatile substances.

3.4. South metropolitan Perth

The South Metropolitan Community Drug Service Team indicated that butane misuse was not known to be a problem in the region. Between July 2005 and June 2006 no client identified with a butane misuse problem while one client identified petrol as their primary drug of choice.

WA Health public health services reported that anecdotal evidence suggests butane misuse is not as widely used as other volatile substances, and that while there appears to be some experimentation with butane in Canning, there was no evidence of ongoing misuse.

Outreach investigation involved speaking to approximately 65 young people between the ages of 13 and 22 years in the Fremantle area. People were approached individually, in pairs, and in groups as large as nine. Most of the people approached were between the ages of 15 and 18 years.

The overwhelming feedback was that the young people had never tried inhaling butane, had never witnessed anyone doing it and although they reported being aware that it occurred, were not sure who, how and what the actual effects were. None had ever seen or were aware of it happening at a party. Most of those questioned associated inhalation of substances with indigenous people, both young and old.

3.5. South east metropolitan Perth

The South East Metropolitan Community Drug Service Team indicated that butane misuse was not being encountered by their services.

The Department of Corrections juvenile justice team in Thornlie advised that butane misuse was not an issue for their clients.

The Bentley Health Service also indicated that no butane specific evidence exists.

Outreach investigations were conducted with 31 young people between the ages of 10 and 18 years in several locations in Armadale. These included café's, fast food restaurants and a cinema complex on Jull Street as well as the train station and a popular park near Jull Street. Most of the young people approached were attending school.

Just over half of the young people approached had heard of young people using butane and five indicated that they actually knew someone who had used butane. Many within the 16 to 18 year age bracket were familiar with butane as a drug of intoxication, however, the majority of the younger people approached had little, if any, knowledge of butane and its misuse. Common perceptions of volatile substance use in general, including butane, were that it was a "cheep and nasty high", a "kiddie drug" and that "you must be stupid to use that".

3.6. Mandurah/Peel, South West and Great Southern

The Drug and Alcohol Office's Drug Overdose Prevention Project that draws together a wide range of agencies reported some anecdotal evidence that the use of butane in the Mandurah and wider Peel region had increased. Other volatile substance misuse use included paint, glue and petrol. In the known cases, the butane was being inhaled from a can.

In the South West, the Community Drug Service Team, School Drug Education and Road Aware regional organising committee, crime prevention committees, the Shire of Busselton and the WA Country Health Service were not aware of any incidents of butane misuse.

The Great Southern Community Drug Service Team advised that they had no data indicating butane misuse as a problem. They advised that there have been some 'anecdotal comments' about butane misuse but it is neither widespread nor popular.

3.7. Wheatbelt, Midwest and Goldfields

The Wheatbelt Community Drug Service Team reported that there is some sporadic misuse of butane. The service indicated that volatile substance misuse in general had reduced following some retailer education sessions (resulting for example in the local supermarket denying sale of all solvents to people deemed to be under 18 years of age) and the closure of the Swan Valley Noongar Camp.

WA Health public health services in the Goldfields and Esperance indicated that butane misuse was not a significant issue.

The Midwest Community Drug Service Team advised that based on anecdotal evidence only, butane misuse is at a relatively low level in Geraldton and Carnarvon. In Geraldton most solvent misuse was confined to paints and petrol. It was noted that these substances are cheaper than butane.

3.8. Pilbara and Kimberley

The Kimberley Community Drug Service Team do not record butane separately from other volatile substances as solvents but reported that anecdotally there is no evidence of butane misuse.

The WA Country Health Service remote clinic coordinator in the Kimberly indicated that butane misuse is not an issue in the region. Similarly the Well Women's Centre in Port Hedland was not aware of any butane issues.

4. Conclusions

It is clear that there is very little observation of butane misuse by a wide range of agencies across the State, and that any use that is occurring is not resulting in young people or families seeking assistance. On the other hand outreach investigations in the metropolitan corridors of Perth, providing indicative rather than definitive information, showed that there are significant pockets of misuse occurring, particularly in the Midland and Armadale areas, and that there is a significant though very uneven level of awareness by young people of the potential for butane to be misused as a drug.

This information together with the survey data is consistent with butane misuse, and most other volatile substance misuse, being experimental with some higher levels of use occurring episodically or as a 'fad' in particular areas. This has been the pattern of most volatile substance misuse in Western Australia over time, with chronic use limited to a small number of young people in Perth and a few remote Aboriginal communities.

Both the outreach investigations and the survey data, however, point towards higher levels of awareness of butane misuse than may have previously been recognised, although this is not universal and it is equally clear that there remains a substantial amount of naivety among young people in general.

CHAPTER 3: Harms and mortality

1. Harms associated with volatile substance misuse

The harms of volatile substance misuse depend on a number of factors including the age of the user, the method of administration and the particular substance used. As a Senate Select Committee noted, in an early inquiry into volatile substance misuse, in 1985, the combination of intoxication, disinhibition, disorientation and hallucinations is a dangerous mix.

Unfortunately, most available information on the effects and harms of volatile substance misuse does not distinguish between the vast number of products that can be misused and tend to attribute to each and every one of them the combined total of possible effects of all products (Commonwealth Department of Health 1984).

As many volatile substance misusers are between the ages of 12 and 16 years, age is a factor in the resultant harm. Under the age of 16 years, damage from use of volatile substances can cause delays in social and psychological development.

Harms attributable to the method of administration, such as asphyxiation from placing a bag over one's head or spraying aerosols or refrigerated gases directly into the mouth, are significant and can include freezing of the larynx.

One outcome from the intoxicating use of any drug is the increased link to suicide. The Victorian Parliament Drugs and Crime Prevention Committee (DCPC, 2002) discussed this issue extensively, reporting that the use of volatile substances can be a contributing factor in the decision to commit suicide as consequence of sudden and impulsive behaviour. The committee thus concluded that the intoxicating and disinhibiting effects of volatile substances can contribute to suicidal behaviour.

Australian researchers have described evidence of long-term harm resulting from volatile substance use as controversial. One reason for this is that the mechanisms by which individual solvents damage organs and organ systems is not well understood. Much of the evidence comes from long-term exposure in industrial settings (in which workers are exposed to small amounts of volatile substances over an extended period of time) or individual case studies. Consequently, the results from such studies do not necessarily relate to the harms young solvent users are exposed to as their use is characterised by inhalation of concentrated amounts of volatile substances over short periods of time. (DCPC 2002)

There is debate as to whether or not the abuse of volatile substances results in irreversible brain damage. Some studies have reported that brain damage does not occur, others report that it occurs in chronic users but reverses after a period of non-use, others again report cases of irreversible brain damage occurring in long-term and chronic users.(Gorny 1994).

Nevertheless, some controlled studies of volatile substance misuse amongst school children have been conducted, which suggest that permanent organ and brain damage can occur, but that it is rare (Rose 2006).

Such damage may be reflected in disturbances in thinking (from decreased impulse control to dementia), movement, vision and hearing. Cognitive abnormalities can range from mild impairment to severe dementia. Chronic exposure can also cause significant damage to the heart, lungs, liver and kidneys (DCPC 2002).

However, in most cases where there is evidence of effects such as memory problems, reduced impulse control, kidney or liver effects, these are generally reversible if the person stops using solvents (Rose 2006).

Limited data exists in relation to volatile substance related morbidity on both a state and national level. In Western Australia there was an average of 32 inhalant abuse-related hospitalisations each year from 1994-2000.

Hospitalisation - volatile substances 1994 - 2000

	1994	1995	1996	1997	1998	1999	2000	Total	Mean/yr
Admissions	20	25	26	32	27	42	49	221	32
Beddays	77	43	70	200	105	76	85	656	94
Cost (\$)	\$33,730	\$35,202	\$45,053	\$49,638	\$39,306	\$64,942	\$102,167	\$370,098	\$52,863

2. Harms associated with butane misuse

Butane is regarded as one of the more harmful volatile substances.

Sudden sniffing death syndrome from butane use is due to cardiac effects such as cardiac arrhythmia/arrest. Butane sensitises the heart to the effects of adrenalin to the point where sudden exercise or alarm cause a cardiac arrest. (d'Abbs and MacLean, 2000). The syndrome occurs without warning and cessation of sniffing does not reverse the effects. The majority of deaths associated with aerosols and gas fuels are from sudden sniffing death syndrome rather than accidental death. This risk can be prolonged for several hours after sniffing butane (Beasley 2006).

High levels of use within a short period of time can lead to depressed breathing and loss of consciousness carrying the subsequent risk of the user choking on their vomit.

Risks are also associated with the method of administration. Users may be at risk from asphyxiation from plastic bags placed over the head to inhale the substance. Spraying butane or other aerosols directly into the mouth can freeze throat muscles or cause the larynx to go into spasm, blocking off the air supply to the lungs and causing asphyxiation. Also, as a result of spraying directly into the mouth, refrigerated gases can stimulate the excretion of fluid in the lungs (pulmonary oedema) which can result in death by drowning as a result of the lungs becoming full of fluid. As the jet of fluid from compressed or liquefied gases can cool rapidly to minus 20 degrees Celsius, contact can cause cold burns or frostbite. (Harris and Mirza 2004, DCPC 2002, ACPR 2004).

Research into the long term effect of the use of gas fuels is inconclusive, but there are concerns that exposure to the impurities found in fuel grade butane might give rise to long term health problems such as carcinomas (Resolv 2004).

Intoxication itself gives rise to risks of accidents whilst intoxicated due to impaired judgement such as motor vehicle accidents, walking out into traffic, falls, drowning and serious burn injury from fire or explosion may be sustained from the flammability of the substance.

3. Volatile substance misuse related mortality

Estimates of mortality may underestimate the contribution of volatile substance misuse as deaths may be classified by other criteria. One example cited by the Victorian Parliament Drugs and Crime Prevention Committee (2002) was where the cause of death was recorded as 'multiple injuries sustained in a motor vehicle accident' even though the victim lost control of the vehicle as a result of butane intoxication.

According to the Senate Select Committee (1985), death through abuse of volatile substances may occur from either lethal cardiac arrhythmias (sudden sniffing death syndrome), asphyxiation and pulmonary oedema, misadventure, poisoning and/or chronic organ failure.

In Western Australia, between 1997 to 2001, the State Coroner reported volatile substance misuse to be the direct cause of death in three instances with the cause of death categorized as "accidental poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours" (ICD code 10 X46).

In the same period in the United Kingdom, from 1997 to 2001, there were 362 deaths attributable to volatile substance misuse (Field-Smith et al 2006). This is an average 72 deaths per year compared to 0.6 in Western Australia, noting that the approximate populations of the United Kingdom and Western Australia are 50 million and 2 million respectively.

The Drug and Alcohol Office's coronial database encompassing all deaths where drugs may have been a factor indicates that in the same period there were a total of 14 cases in Western Australia identified where volatile substance misuse was mentioned as either an underlying or extra cause of death. This includes cases of accidental poisoning, suicide and exposure to volatile substances in industrial accidents. In these cases there were 34 multiple causes associated with the 14 deaths (Swensen and Unwin 2003)

United Kingdom data indicates that deaths increased through the 1980's to reach a peak of 152 in 1990 and 122 in 1991 after which there were an average of 87 per year for remainder of the 1990's and then an average of 59 a year during the current decade (Field-Smith et al 2006).

In the rest of Europe and the USA., volatile substance misuse is an issue of varying dimensions but there are only limited reports of deaths occurring. (Hedrich & Ives 1994, United Kingdom Department of Health 2005)

In New Zealand, Beasley (2006) reports that there were 11 volatile substance misuse related deaths in 2003 and 2004.

4. *Butane misuse related mortality*

Data from Western Australia, like Victoria and the United Kingdom, indicate that the majority of volatile substance misuse related deaths can be attributed to butane.

The Drug and Alcohol Office's coronial database identifies three deaths occurring between 1997 and 2005 that were directly attributed to butane misuse in Western Australia.

The three deaths involved males of the ages 13, 17 and 24 years. The circumstances were summarised below in coronial notes.

- Male, 13: Three month history of volatile substance misuse and was alone at the time in his backyard.
- Male, 17: Two and a half year history of volatile substance misuse and other dependent use of substances such as cannabis. Was found in the family home with family members present.
- Male, 24: Long history of drug and alcohol dependence including volatile substance misuse. Was found with a number of substances in his system including cannabis, naltrexone, diazepam and a range of other medications for diagnosed depression, and other mental health issues. Was also found in the family home with family members present.

The Coroner's finding in the last case implicated butane as being in conjunction with other drugs, a "combined drug effect (accident)", whereas the first two cases attribute the death to butane alone.

A further case for which a verdict is not yet available occurred in 2005 involving a 13 year old male where butane was detected by toxicological analysis.

In the United Kingdom in the period from 1997 to 2004 there were 433 deaths attributable to butane misuse (Field-Smith et al 2006).

CHAPTER 4: Strategies to reduce supply, demand and harm

1. Legislation and regulation

The taskforce has examined both existing legislation and the potential for new legislation to control the supply and use of butane and other volatile substances. The issues and the experience in Western Australia and in the United Kingdom, where legislation restricting the supply of a particular butane product to juveniles is in place, have been considered in detail.

1.1 Legislation and regulation supporting intervention with users

The issue of volatile substance use presents both social disorder and welfare issues. Given the young age of the majority of inhalant users, the focus in all jurisdictions is on social welfare. The criminalisation of volatile substance use is widely agreed to be an ineffective strategy to address the behaviour.

Each Australian state and territory has public intoxication legislation that generally allows police to detain a person believed to be intoxicated. Child welfare legislation also exists in each state and territory that allows police to take children into care where they are at risk or in need of protection. (ADCA, 2003)

In Western Australia, the relevant legislation is the *Protective Custody Act 2000* and the juvenile welfare protection provisions of the *Child Welfare Act 1947*.

The *Protective Custody Act 2000* authorises police, and community officers appointed by the Commissioner of Police, to apprehend intoxicated persons and return them to their home or family or place them into protective custody in 'an authorised facility'. This includes minors who can be placed until a parent, guardian or responsible person has been located.

With respect to juveniles, the Act also allows officers to confiscate, seize and destroy any substance that is or might be contributing to their intoxication.

The *Protective Custody Act 2000* (WA) defines intoxicants as specifically including volatile substances.

Section 41 of the *Children and Community Services Act 2004* enables police officers to move children who are not currently at their place of abode, who are not under the supervision of an adult and are behaving in a manner that places them at risk to a safe place. The provision is very broad and requires an assessment by the police officer.

A pilot program extending a range of court diversion programs to people who are appearing in court as a result of issues associated with volatile substance misuse has been established in the Goldfields region. The program will engage these people in treatment programs at the direction of the court. It is in its early stages and is anticipated to be appropriate for a limited number of people.

1.2. Legislation restricting the supply of products

1.2.1. The supply of products for intoxication

The Victorian Parliament Drugs and Crime Prevention Committee (2002) has recently examined the potential for legislation to restrict the supply of volatile substances. It noted that debates over restricting the supply of volatile substances revolve around three issues:

- Whether retailers and distributors of volatile substances should be penalised for selling them in the knowledge that they will be misused;
- Whether the sale of volatile substances should be restricted to those over a certain age; and
- Whether the volatile substances should be secured in ways that make them less conveniently accessible.

The Western Australian Criminal Code covers the supply of supply of volatile substances under Section 206, "supplying intoxicants to people likely to abuse them". This states that "A person who sells or supplies an intoxicant to another person in circumstances where the person knows, or where it is reasonable to suspect, that that or another person will use it to become intoxicated is guilty of an offence and is liable to imprisonment for 12 months and a fine of \$12 000". Section 206 specifically identifies an *intoxicant* as a drug, or a volatile or other substance, capable of intoxicating a person; and a *volatile substance* as a substance that produces a vapour at room temperature.

In the last year, there have been a total of 11 charges preferred against five persons in Western Australia under this section and all pleaded guilty as charged. All offences occurred within Aboriginal communities and involved either supply of the intoxicants by family or friends to juveniles. One incident involved a mother supplying the intoxicant (petrol) to her child. The intoxicants included petrol, toluene, paint and paint thinners, much of which was actually stolen prior to being supplied. The incidents occurred at Warburton, Laverton and Warakurna.

There are no known cases of this section being used to prosecute retailers but this could occur.

It is recognized that there are practical difficulties for retailers identifying potential misusers and that retailers may not be aware of the wide range of products that can be misused. Moreover the Drugs and Crime Prevention Committee (2002) accepted the observations of Rose, Daly & Midford (1992) that similar laws in the United Kingdom resulted in an increase in mortality from volatile substance misuse as users shifted from glue to aerosols and butane gas. Specifically, overall deaths from volatile substance misuse went up from 82 in 1983 to 132 in 1988 with the increase attributable to a three-fold increase in gas and aerosol deaths. (Rose 2001). Butane is considered to be by far the most common form of volatile substance misuse in the UK. (DCPC 2002).

The taskforce's view is that, in the current circumstances in Western Australia, the legislative provision under the Criminal Code provides support both for informal interventions that fall short of actual prosecution and for prosecution in clear cases on deliberate profiteering from the supply of volatile substances.

1.2.2. The supply of butane to minors

The more vexed issue is whether the sale of butane, or other volatile substances, should be restricted to people over a certain age.

In the United Kingdom, an amendment to the Consumer Protection Act in 1999 makes it illegal for any person to supply a cigarette lighter refill canister containing butane to any person under 18 years old.

In Texas, USA, legislation also prohibits the sale or delivery of volatile chemicals to minors (under 18 years of age) under the *Abusable Volatile Chemicals Act 2001*. This Act also prohibits the use of volatile chemicals, including aerosol paint and nitrous oxide, in a 'manner designed to affect the central nervous system' or the possession of such chemicals with the intent to inhale.

The United Kingdom experience has been considered by a number of interested parties and reviewed carefully by both the taskforce and the Victorian Parliament Drugs and Crime Committee.(2002).

Mortality data from the United Kingdom (Field-Smith et al 2006) indicates that the impact of the legislation has not been clear.

In 2000, the first full year of reporting after the legislation banning the sale of butane refills to under 18's was introduced in 1999, there was a significant decrease in deaths, specifically:

- all deaths associated with butane fell from 60 to 51,
- those associated with lighter refills fell from 43 to 34,
- butane related deaths among those under 18 fell from 23 to 16, and
- those associated with lighter refills among those under 18 fell from 15 to 7.

However, the number of deaths rebounded to the pre-legislation levels in the subsequent two years, 2001 and 2002:

- all butane related deaths rose to 58 and 56 respectively (compared to 60 in 1999),
- lighter refill related deaths rose to 42 and 37 (43 in 1999),
- among those under 18 deaths increased to 27 and 22 deaths (23 in 1999);and
- those associated with lighter refills among those under 18 rose to 12 and 13 (15 in 1999).

Thereafter, in 2003 and 2004 deaths have again fallen in conjunction with a general fall in volatile substance misuse deaths:

- all butane related deaths numbered 42 and 37 respectively
- associated with lighter refills numbered 29 and 25
- among those under 18 there were 8 and 13, and
- those associated with lighter refills among those under 18 numbered 4 and 6.

In the years preceding and after the introduction of the legislation, the proportion of deaths attributable to butane has remained consistently around 80%, indicating that a range of factors are likely to be affecting the overall levels of volatile substance misuse and mortality.

Considering the issue recently, the United Kingdom Department of Health and the Home Office (2005) in the development of the current United Kingdom Volatile Substance Abuse framework concluded that the evidence is equivocal and that if the ban helped to reduce the death toll it was not necessarily for a sustained period and moreover that the outcomes illustrate that several strategies must be implemented simultaneously in order to effect a long lasting change in behaviour.

The Alcohol and Drug Council of Australia (2003) concluded similarly that it is unlikely that a ban on sales to those under 18 years will actually prevent young people from accessing volatile substances by other means.

Following its detailed examination, including examining several witnesses from the UK, the Victorian Parliament Drugs and Crime Prevention Committee (2002) did not support the introduction of age restrictions for the sale of certain volatile substances. The committee considered that it had identified a number of strong and persuasive arguments on both sides of the debate that merited further consideration but was unable to reach a definitive position and recommended further investigation.

The taskforce debated this issue on multiple occasions and also considered the arguments to be finely balanced. The arguments for and against restricting the sale of butane to minors are summarized as follows:

Arguments supporting the introduction of restrictions

- The restrictions may be working to some extent in the United Kingdom.
- Legislation would assist retailers to be aware of the product(s) and deny sales to young people.
- A decrease in overall supply may be achieved and thereby decrease misuse and thus harm.

Arguments not supporting the introduction of restrictions

- Legislation would advertise the potential for butane to be used as a drug, and its prohibition may be an attraction for some young people.
- Prohibition for minors may encourage predatory adults to supply the product to young people.
- There are a wide range of butane products capable of misuse.
- Retailer compliance and enforcement would be problematic.
- Supply to people over 18 years of age would not be affected.
- Internet supply would not be affected.

Notwithstanding the tragic death that led to the establishment of the taskforce and the incidence of butane misuse that has been identified in some areas of Perth, its misuse and associated mortality is not of the proportions that occur in the United Kingdom. This is a key issue in assessing whether the risks associated with advertising the product as a drug may outweigh the potential benefits of restricting supply through this means.

On the basis of its examination of the United Kingdom experience, comparison of the extent of butane misuse problems in Western Australia and the potential risks of unintended effects of legislation, the taskforce concluded that legislation to restrict the sale of butane to minors would not be recommended at this time. However, given the finely balanced nature of the arguments for and against such a development, the taskforce considered that the issue should be actively monitored and that the Drug and Alcohol Office should formally revisit the question in another twelve months and provide further advice to the Minister for Health at that time.

The reassessment of this strategy in twelve months will turn on whether the extent of butane misuse in Perth and other areas of Western Australia has moved beyond being a localised and episodic phenomenon to become entrenched as a recognized drug among young people as is more the case in the United Kingdom.

Alternative actions to restrict the supply of butane are addressed in subsequent sections of the report.

Recommendations: Legislation - to police supply effectively

- Increase the use of the provisions of the Criminal Code prohibiting the supply of volatile solvents for abuse, particularly to support informal policing to restrict the supply of butane and other volatile solvents.
- Monitor the appropriateness of legislation to restrict the sale of butane to minors. Although not recommended at this stage, the Drug and Alcohol Office to formally revisit the issue in twelve months and provide further advice to the Minister for Health in the light of the circumstances in Western Australia at that time.

2. Policing and law enforcement

The key issues for police associated with the misuse of volatile substances are dealing with individuals acutely affected by the misuse of volatile substances; policing suppliers of substances for the purpose of intoxication; and working with other agencies to respond effectively to local problems.

Police have long been advised to approach volatile substance users cautiously and not to unnecessarily give chase to them or startle them due to the risk of sudden sniffing death syndrome that may result from extra pressure placed on the heart during intoxication. Determining whether a person is intoxicated as a result of inhaling volatile substances or use of drugs or alcohol is not easy for police. If a person has used more than one substance and is incoherent then the first option is to call for medical assistance, which is not always immediately available. (DCPC 2002)

In those areas where police officers are likely to be dealing with intoxicated individuals, training regarding how to deal with intoxicated people, the legislative tools and the health and welfare services available to assist will be appropriate.

With respect the policing and prosecution of suppliers of volatile substances the Criminal Code, and natural justice, require that the supplier *knowingly* sold the substance for the purpose of misuse. This may be problematic for achieving prosecutions. However, the criminal code provision remains a valuable tool for informal policing that involves visiting retailers to make them aware of their responsibilities when a problem has been identified by local agencies or community groups.

The Australasian Centre for Policing Research (2004). outlined the role of police in assessing, preventing and responding to volatile substance use problems at a more strategic level. A range of strategies were identified, including:

- the establishment and formalisation of cooperative approaches with other agencies involved in responding to these problems;
- addressing community safety and amenity issues that arise from the misuse of volatile substances; and
- the development of other specific local initiatives based on local needs.

These strategies indicate the need for a collaborative approach by police to address volatile substance misuse as a community issue. Policing of volatile substance use is likely to require a response from not only police but also key agencies (community drug service teams, schools and the Department for Community Development) as well as community groups (local drug action groups, Neighbourhood Watch, Aboriginal community patrols, retailers and private security personnel).

The Australasian Centre for Policing Research (2004) recommends the establishment of protocols and memoranda of understanding between agencies to more clearly delineate their respective roles, and the development of codes of conduct and voluntary agreements with retailers of volatile substances to restrict their supply.

A recent Western Australian example of local police addressing volatile substance misuse has been in the Midland area through community liaison committees and key agency partnerships. Midland Police, particularly the alcohol and drug advisors, worked with the East Metropolitan Community Drug Service Team to address the problem. This partnership in turn worked with local retailers to develop and implement the *Retailers Acting Against Solvent Use Resource Kit*. The approach has been successful in reducing the number of young people using volatile substances in public places as well as theft of spray cans and other inhalants. This has been a particularly valuable strategy in an area of Perth where there had been a noticeable problem with volatile substance abuse among young people for some time.

Recommendations: Policing - to support local communities

- Provide expanded professional education for police that provide greater content on butane specifically, encompass dealing with acute intoxication, current available legislation and how it can be utilized, and supports local partnerships.
- Conduct visits to retailers to make them aware of their responsibilities when a problem with butane or other volatile substance supply has been identified either by police, local agencies or community groups.

3. Voluntary retailer schemes

Both in Western Australia and throughout Australia, there have at different times been significant efforts to restrict the supply of volatile solvents through voluntary retailer schemes.

Voluntary retailer schemes support retailers' common law right to refuse the sale of their goods when they believe that it is appropriate as well as to err on the side of safety in complying with the criminal code provision that prohibits supplying intoxicants to people likely to abuse them.

As outlined in relation to the role of police, a partnership between WA Police in Midland, particularly the alcohol and drug advisors, the East Metropolitan Community Drug Service Team and local retailers developed and implemented the *Retailers Acting Against Solvent Use Resource Kit*. The approach has been successful in reducing though not eliminating volatile substance misuse in the area. Parts of the kit and aspects of the approach have been adopted in other areas of the state at different times.

Many hardware retailers have also taken action to lock up paints that can be misused, either as drugs or for graffiti. Anecdotal reports from retailers indicate that this measure substantially reduces the theft of these products as well as reducing local incidents. Bunnings' stores in Western Australia have led this approach by keeping all their spray paint cans and associated paraphernalia securely locked in reinforced 'cages'. Particular spray paint cans are not sold to people under the age of 18 and there are signs prominently displayed advertising this fact.

The role of retailers in restricting supply of butane and a wide range of other products that are misused as drugs needs to be supported. Retailers need knowledge of the issue in order to be able to identify young people who may be purchasing products for purposes of misuse as well as a working knowledge of the products that are commonly misused. Training around how to refuse sale and how to deal with intoxicated customers may also be helpful.

The United Kingdom Home Office Advisory Council on the Misuse of Drugs (1995) outlined the issues for retail staff clearly:

- staff should know in general terms about volatile substance misuse and that it involves the deliberate inhalation of a wide range of volatile substances;
- they should be able to identify all the abusable substances on sale in their retail setting;
- they should be able to distinguish between abusable and non-abusable versions of similar products (for example, solvent-and-water-based adhesives);
- they should know their legal responsibilities on volatile substance misuse; and
- they should know who to contact locally for additional information.

The Home Office also noted that there is a temptation to regard all retailers as independent isolated units when in fact many are covered by trade associations, and argued that trade associations have a responsibility in relaying the volatile substance misuse message to retailers.

In Western Australia, the range of measures that retailers can take to prevent supply of solvents for misuse has been outlined in a voluntary code of practice for retailers developed as part of the *Retailers Acting Against Solvent Use Resource Kit*. The code refers to all solvents, glues, butane and other aerosols. The code encourages retailers to take reasonable steps to limit the likelihood of these materials being obtained for solvent abuse by such actions as are appropriate to their circumstances, that may include any of the following:

Displaying these materials in sight of shop staff, near tills, on high shelves, under the counter, or in locked display cabinets.

Use of dummy containers for display purposes

Avoiding sale of products to children unless accompanied by adults

Identification of the purpose of use of large quantities of product

Display of signs indicating your right to refuse sales

Politely refusing sale of these substances to those you suspect of being a solvent abuser

The application of voluntary schemes needs to be actively promoted to be effective. The Drug and Alcohol Office together with the network of community drug service teams, working locally with WA Police where that is appropriate, have a key role in this respect. The taskforce considers that these efforts need to be redoubled.

The Retailers Association of WA has indicated that it supports this approach to restricting supply, specifically by removing butane products from self service, keeping them behind the counter or in locked cupboards, thereby requiring a deliberate interaction between staff and customers.

Recommendations: Voluntary retailer action – to restrict supply

- Renew and actively promote the *Retailers Acting Against Solvent Use Resource Kit* including the *Voluntary Code of Practice* for use in various communities and outlets.
- Provide training and support for retailers where appropriate.
- Alert retailers to outbreaks or 'fad' products through the Retailers Association of WA.

4. Education

The taskforce has considered in depth the extent to which school drug education and community education initiatives should cover butane and other volatile substance misuse. This is a vexed issue as there is currently a clear consensus in Australia, reflected in a range of national and state policies and strategies, that the issue should not be part of mainstream school drug education nor the focus of community campaigns. The United Kingdom and parts of the USA take the opposite approach.

4.1 School drug education

In Western Australia, education for young people about volatile substances is currently delivered via the School Drug Education and Road Aware curriculum in the context of dealing with medicines, hazardous substances and poisons rather than in mainstream drug education. Programs may be addressed to those assessed as being at risk of using or current users of volatile substances, and should be taught outside the general classroom. (WA Volatile Substance Use Plan 2005).

The rationale behind this approach is that educating young people about substances that are cheap and easily accessible and about which they have little current knowledge risks sparking interest in their misuse and consequently increasing the levels of experimentation and misuse.

All states and territories across Australia take a similar approach

This is reflected in the Alcohol and Drug Council of Australia's recommendation that targeted education projects are aimed at young people at risk of inhalant use and current users (2003).

The Victorian Parliamentary Drugs and Crime Prevention Committee's consideration of this issue concluded that information should generally be provided on an 'indicated' basis, ie, targeting those who are already using to prevent progression of abuse to further harms, and only possibly on a 'selective' basis, ie, targeting at risk youth who are not yet using to prevent or delay use. With respect to school education specifically, the

committee also argued that programs should be taught outside the general classroom and conducted by trained experts in the field (DCPC 2002).

This position reflects the guidelines outlined in the comprehensive Victorian education manual *Volatile Solvents: A Resource for Schools*, (Bellhouse, Johnston, Fuller and Guthrie, 2000):

Guideline 1 - Teaching about volatile solvents as drugs should not be included in the mainstream drug education curriculum.

Guideline 2 - Volatile solvent education should be provided in the preventive context of Occupational Health and Safety... Direct reference to volatile solvents as drugs should be avoided.

Similarly, guidelines from New South Wales also suggest that prevention messages should promote an awareness that products such as butane in cigarette lighter gas, aerosol sprays, petrol, some glues, correction fluids, paint thinners, dry cleaning fluid, nail polish removers, nitrous oxide used in whipped cream dispensers, fire extinguishers and other common, often inexpensive household and industrial products may contain poisons, toxins, pollutants and in some cases, highly inflammable materials. The approach though is aimed at primary school aged students recognizing that it may be superfluous for secondary students who know about the dangers associated with such products. (NSW Department of Education and Training 2006)

All these policy documents argue that this is an evidence based approach. However, a thorough search by the taskforce for the primary research located a clear description of only one study, from New Zealand in response to a major problem with solvents in the mid to late 1980s. The study did find that provision of specific information on solvents to students who were not misusing these substances was counter-productive. The effect may also have been exacerbated by a high level of media coverage occurring at the time (Youth Affairs New Zealand 2000). While this study is consistent with the Australian policy consensus, it appears that the approach is based on the repeated enunciation of basic behavioural principles rather than a significant body of research evidence.

In the United Kingdom and some states in the USA, volatile substance misuse is included in mainstream school drug education.

Flanagan and Ives (1994) in the United Kingdom, for example, argued that ignoring the topic was no longer reasonable in the face of widespread awareness of volatile substance misuse. Further, that because young people know about drugs and volatile substances from an early age, they should know of their dangers, particularly as products are in most people's homes (unlike illegal drugs). Their view is that education about volatile substances can therefore be part of school education concerned with safer living in a society-full of potential dangers.

Notwithstanding this recognition, the key non-government organisation in the United Kingdom that provides information on volatile substances has cautioned that education on volatile substances should take into account the 'innocent' element recognizing that while young people are more than likely aware of a wide range of products that can be sniffed, much of their knowledge is picked up from their friends and may be misinformed and sketchy. As such, they emphasise that it is unnecessary to provide details of abusable products beyond what is usually 'common knowledge', for example glue-sniffing, as too much information may alert children to potentially sniffable products about which they previously knew little. (Re-Solv 2000)

The taskforce considered carefully whether the current approach in Western Australia is consistent with the extent of volatile substance misuse and young people's awareness.

It is clear that the extent of volatile substance misuse and its associated harms and mortality are substantially less than those in the United Kingdom. However, the prevalence of experimental volatile substance misuse indicated by the Western Australian results of the Australian School Students Alcohol and Drug survey (with 12% of 12 to 15 year olds reporting volatile substance misuse in the previous year), together with the incidence of episodic misuse and the extent of knowledge of butane as a drug as indicated by the taskforce's outreach investigations, argue for some adjustment to the current approach in Western Australia. Any adjustment needs to be tempered, however, by the low rate of students reporting experimentation with butane specifically (0.8% of all students) and the still considerable proportion of young people who remain naïve about the issue and the risk of exposing them to increased potential for misuse and harm.

As such, the taskforce's view is that school drug education on volatile substance misuse including butane should occur when groups of students are at risk by virtue of a local outbreak or 'fad', or widespread knowledge and discussion of the issue by young people. The information from key agency informants and outreach investigations indicates that at the current time this is likely to be the case in Midland and to a lesser extent Armadale.

The complexity in this approach is for schools to be able to know when there is localised volatile substance misuse and knowledge among students. In order to facilitate this, monitoring and reporting systems that draw on key informants including young people themselves will need to be further developed and maintained and linked to the School Drug Education and Road Aware regional organising committees.

Specific volatile substance misuse resources that cover butane, as well as other substances, will need to be developed for schools. These resources should continue to emphasise that these products are poisons and hazardous chemicals as this approach provides some protection against glamourising them as drugs.

The current approach in Western Australian schools also encompasses the referral of young people who are regularly misusing volatile substances to appropriate treatment. The linkage of community drug service teams throughout the state with schools in their regions through the School Drug Education and Road Aware regional organising committees is necessary for this purpose. While it is most likely that young people who are regularly misusing solvents will not be engaged at school, taking this action where there is the opportunity to do so remains important.

4.2. Community education

The extent to which there should be broad public education about volatile substance misuse is affected by the same potential benefits and risks as school drug education.

There have been no public campaigns in Western Australia and currently there is no available information resource that has been developed for the general community and parents in particular.

As with school drug education, the United Kingdom has taken a contrasting approach with community education campaigns aimed at parents and young people conducted in 1991 and 1994. Some states in the USA also undertake overt public awareness activities.

Considering the links between the campaigns and the level of volatile substance misuse deaths in the United Kingdom, the Department of Health and the Home Office (2005) concluded that 'on the balance of probabilities, the evidence is in line with the campaign reducing deaths. We cannot be sure, however, and say that there is an effect beyond reasonable doubt'. This conclusion is appropriately cautious as although the number of deaths at the time of the first campaign fell from 122 in 1991 (having been 152 in the previous year) to 85 in 1992, at the time of the second campaign, they rose from 67 in 1994 to 77 in 1995 (Field-Smith et al 2006).

Post-campaign research indicated increased parental awareness of volatile substance misuse and some evidence that parents had discussed volatile substance misuse with their children as a result of the campaign (Department of Health and the Home Office 2005).

Largely on the basis of this experience, the Victorian Parliament Drugs and Crime Prevention Committee (2002) argued that information provided to parents can contribute strongly to a preventive approach by increasing parental confidence to raise the issue of volatile substance misuse for discussion with their children.

The taskforce considers a resource should be developed for parent education for general use in a range of settings and that, as with the approach for school drug education, specific education initiatives should occur where there are similar indications of risk.

4.3. Professional education

The need for agencies and their professional staff to be able to respond to volatile substance misuse has been widely recognized.

The Alcohol and Drug Council of Australia (2003) has argued that many health, education and justice professionals can come into contact with young people who are abusing inhalants and that they require adequate information and training to identify problematic inhalant users and manage inhalant intoxication. Such knowledge is essential to provide appropriate responses and referral.

Similarly the Victorian Parliament Drugs and Crime Prevention Committee (2002) also emphasised that agencies and individual staff need to be thoroughly informed of the nature and consequences of volatile substance abuse.

In Western Australia, the Drug and Alcohol Office has provided periodic training for professionals on a range of volatile substance misuse issues encompassing acute intervention, treatment and community based prevention. Additionally a CD compilation of resources (Rose 2006) has been widely distributed to agencies. The WA Volatile Substance Use Plan particularly notes that agencies require a thorough understanding of current available legislation and how it can be utilised to deal with these issues, as well as their roles and responsibilities. (DAO 2005)

The taskforce recognizes that existing professional education activities would benefit from greater content focusing on butane specifically, and a more proactive approach that engages key agencies and supports local partnerships.

A basic printed resource for professional agencies including drug and alcohol and youth services, police and the Department for Community Development, would raise awareness and assist these services to respond proactively and appropriately. The Irish Health Promotion Association (Ives 2002) has developed a professional's guide that provides a good example for the development of a useful resource. The Western Australian resource should provide summary information on butane and other volatile solvents; the current legislative provisions that support interventions; appropriate responses to acute intoxication, regular and chronic use; community interventions to reduce supply; and indicate opportunities and responsibilities of various agencies. It should direct agencies to the more comprehensive CD resources.

Recommendations: Education - targeted for young people, parents and professionals

- School drug education on volatile substance misuse including butane to occur when groups of students are at risk by virtue of a local outbreak or 'fad' or widespread knowledge and discussion of the issue by young people.
- Specific volatile substance misuse resources that cover butane as well as other substances, be developed for schools. Resources should emphasise that these products are poisons and hazardous chemicals.
- Link monitoring and reporting systems that identify local outbreaks or 'fads' to the School Drug Education and Road Aware Regional Organising Committees.
- Develop a resource for parent education for general use in a range of settings.
- Provide specific parent education initiatives where there is a local outbreak or 'fad' or widespread knowledge and discussion of the issue by young people.
- Provide professional education activities with greater content on butane specifically, and that emphasise a more proactive approach to engage key agencies and support local partnerships.
- Develop a resource to support action by professional agencies.

5. Media coverage

As the Alcohol and Drug Council of Australia (2005) points out, the media is a significant shaper of community attitudes and political responses to alcohol and drug issues and that in the case of inhalants the media is critical and can even influence behaviours.

The National Inhalant Abuse Taskforce (2005) notes that many reviews in Australia comment on the general lack of community knowledge about inhalant abuse. Their observation is that the community is often informed by sporadic sensationalist media portrayal of inhalant use rather than accurate factual information.

The Victorian Parliament Drugs and Crime Prevention Committee (2002) concluded that media coverage of inhalant abuse is often highly problematic. They observed that while well targeted local publicity and information campaigns may help address problems associated with inhalant abuse and assist in garnering support for local projects, inappropriate media coverage can cause local hysteria about the issue and cause or escalate local outbreaks of abuse by raising young people's awareness of products and inhalation methods.

The committee went on to explain that in particular, irresponsible reporting has the potential to promote 'copycat' behaviour, stigmatise and demonise the young person and encourage the commencement and/or continuation of the behaviour and should be avoided at all times. The problematic issue is whether by publicising facts about volatile substance abuse, however accurately and dispassionately, one runs the risk of encouraging the practice

As Bellhouse, Johnston & Fuller (2002) observe the copycat factor is relevant to all drugs; however the copycat factor with regard to volatile solvent use causes great concern because of the age group of experimenters and the accessibility of the substances.

Mundy (1995) notes that even among long-term users, depending on the substance used, these are not uncommon outcomes.

Clearly the most problematic issue is when media stories profile exactly how to misuse solvents or detail specific substances used, in effect acting as a primer for potential users.

This is not a new issue. In 1985 the Senate Select Committee on Volatile Substance Fumes endorsed an overall approach that did not inadvertently promote volatile substance misuse by providing information to young people but noted that this will only succeed if a sensitive and responsible attitude is adopted by the media in avoiding sensationalised and explicitly descriptive reports.

As indicated in the taskforce's consideration of education issues in the current environment, there may be less naivety among young people compared to 20 years ago but the imperative remains that volatile substance misuse should not be inadvertently promoted through media publicity that advertises the practice, the products and methods of misuse.

The 1985 Senate guidelines still provide a clear and succinct statement on appropriate media coverage of volatile substance misuse.

Reports should not describe nor depict methods by which substances are abused and products subject to abuse should not be named.

Reports of inhalant abuse deaths should be factual, and not sensationalised or glamourised.

Articles on causalities of volatile substance abuse should not be superficial. The causes are complex, they vary from region to region, and may be different for each individual involved. Reliable organisations should be contacted for information.

Stories should include a local contact telephone number or source organisation for further information

It is recognised, as the National Inhalant Abuse Taskforce (2005) has argued, that for guidelines to be effective the media needs to be better educated about the guidelines and inhalant abuse generally. The Western Australian Volatile Substance Use Plan (2005) anticipates action to support the media to take this more considered approach, through providing regular briefings rather than solely reactive contact, and ample information to elaborate the rationale behind the media guidelines.

It is worth also reiterating the Australian Press Council (2001) guidelines for reporting drug and substance use issues as they provide a sound context for the more specific volatile substance misuse guidelines. These are:

- Responsibly report public debate about drug use and addiction;
- The harmful effects of any particular drug should not be exaggerated or minimised;
- Avoid detailed accounts of consumption methods, even though many young people are generally familiar with them;
- Outlining the chemical composition of a drug may be justified in some reports, but avoid providing any details which could assist its manufacture;
- Do not quote the lethal dose of any particular drug;
- Guard against any reporting which might encourage readers' experimentation with a drug, for example highlighting the 'glamour' of the dangers involved;
- Highlight elements of a story which convey the message that preventive measures against drug abuse do exist, and that people can be protected from the harmful consequences of their addictive behaviours; and
- Bear in mind the arguments of those who point out that tobacco and alcohol use and addiction are another major aspect of the drug story.

A policy of restraint that has been widely applied to reporting suicides in Australia is generally regarded as having been very successful. The approach is based on a combination of clear guidelines and positive support for the media (Youth Affairs Council of Victoria 2002). The taskforce considers that the issue of butane and other solvent misuse warrants the same consideration.

Recommendations: Media coverage - to avoid inadvertently advertising products for misuse

- Adopt and promote the media guidelines developed by the Senate Select Committee on Volatile Substance Fumes.
- Provide appropriate support to media organisations to implement the guidelines on volatile substance misuse.

6. Product safety

Various reviews have proposed ways of reducing the abuse potential of volatile substance products (National Inhalant Abuse Taskforce 2005). These include:

- modification of the receptacles containing volatile substances or the re-design of the way the product is delivered from its container so as to make abuse less easy (to prevent the gaseous propellant being extracted from the container separately from the product);
- replacement or reduction of the abusable or toxic element of the product with a non abusable alternative;
- adding substances such as bittering additives to make products less appealing to inhalers; and
- dispensers that only issue a limited amount of the product.

However, whether these proposals are technically feasible is moot. The taskforce consulted the Western Australian Department of Industry and Resources regarding the feasibility of various product modification approaches and was advised that while plausible, any approach needed to be the subject of detailed scientific trials. Moreover, product modification will not be accepted if it renders products less effective for the job for which they are intended.

Product modification has been successfully undertaken to address petrol sniffing in outback Australia through the development and introduction of OPAL fuel, a leaded petrol without the active intoxicant of aromatic hydrocarbons, specifically refined by BP Australia for the purpose. Previous efforts had involved the addition of ethyl mercaptan added to petrol for its malodorous effect reputed to induce nausea, vomiting and diarrhea, though this was not a successful approach (d'Abbs & MacLean 2000).

In considering product modification, the Victorian Parliament Drugs and Crime Prevention Committee (2002) argued that there is a need to ensure that the result is not a product which is more hazardous in normal use. In particular, there is a concern that to make one form of product unpleasant to taste or smell may simply serve to displace use to another product. This is a particular concern if any subsequent products used are more dangerous than the original. In this regard they cite a purported shift to from glue to butane in Britain during the 1980s (Rose 2001). As with other strategies discussed, product modifications can only ever be one part of an overall multi-focused strategy to address the issue. They should not to be employed as a panacea.

Scientific research and technical trials examining product modification are currently being conducted in Australia. In 2004 the Commonwealth Department of Health and Ageing provided funding to the Victorian Department of Human Services to undertake research to inform the consideration of product modification as a response to inhalant abuse. This has included scientific and technical trials to further explore the feasibility of the modification of petrol, butane gas and aerosol spray paint to deter abuse. Work is being undertaken by CSIRO.

The Western Australian Volatile Substance Use Plan (2005) has noted an intention to monitor the outcome of the CSIRO studies.

Similar work has been undertaken in the United Kingdom without success, including modification of butane cigarette lighter refill containers as well as the modification of nozzles of aerosol cans and the addition of an extremely bitter substance known as 'Bitrex' to the butane in cigarette lighter refills (Re-Solv 2000).

Labelling of products to carry warnings of the dangers of inhaling the contents was also considered by the taskforce. Most products carry warnings that they are poisons and the overriding view was that further warnings would serve to advertise the potential for misuse of the product.

Recommendation: Product safety - monitoring opportunities for improvement

- Monitor the outcome of current CSIRO studies into product modification for butane and other volatile solvents.

7. Emergency responses and safety messages

The importance of seeking assistance in emergency situations cannot be overstated. Not acting or delaying acting can mean the difference between life and death.

This is a message that was strongly delivered to the illicit drug using population in the mid 1990's when there was large number of heroin overdose incidents and deaths. Research at that time indicated that most individual occasions of not acting were due to fear of legal ramifications (Loxley et al 1998). A wide range of strategies was used to reiterate simple safety messages - to call an ambulance immediately and apply basic first aid. The fact that the ambulance service would not contact police and that police would not attend overdoses to enforce illicit drug laws was emphasised strongly and repeatedly.

The St John Ambulance Service has advised the taskforce that while it has no written policy, the practice of the service is that police are only called if there has been a death or if the paramedics are physically threatened.

WA Police policy formally supports the approach of not attending overdose incidents:

Policy number AD-24.16.1, 'Non Fatal Drug Overdoses'

In line with the National Drug Strategy's major objectives of harm minimization, and that law enforcement should be directed at suppliers rather than users, the use of discretion is encouraged at every stage of the enforcement of self-administration laws.

Where police are called to attend the scene of a drug overdose and there is evidence of other drug-related activity, if the offences only relate to self-administration or simple possession, it is in the greater public interest to use discretion with regard to prosecuting simple offences. This action will have the effect of removing the fear of prosecution and encourage people present at overdoses to call for assistance without delay.

The death of Dayle Koch is a tragic indicator that this message needs to be reiterated and targeted towards a broader audience particularly young people.

The National Inhalant Abuse Taskforce (2005) observed that close to two thirds of volatile solvent misuse is associated with poly drug use and poly drug use was observed in two of the three butane related deaths that have occurred in the last decade for which there has been a coronial determination. Polydrug use also characterised most of the deaths associated with heroin overdoses in the mid 1999's and education about this risk factor was an important aspect to ameliorate that risk (Loxley et al 1998).

The lack of adequate information can result in not recognising the risks or the signs and symptoms of an overdose, or the seriousness of the situation, and can contribute to the incorrect management of overdose incidents including behaviour based on myths such as placing a person in a cold bath or administering fluids.

The correct basic first aid approach can be reduced to very simple behaviours. The Drug and Alcohol Office's drug overdose prevention program *Breathe* project has developed and promotes a simplified approach among illicit drug users to reduce the risk of heroin overdose deaths. The information is promoted through a train the trainer approach with key agencies. The overriding message is to 'breathe into the person until the ambulance arrives'.

The taskforce considers that it is imperative to promote vigorously a wide range of opportunities to spread the message to seek ambulance assistance immediately in the case of drug overdoses, and to increase knowledge regarding the signs, symptoms and dangers of overdose together with basic first aid responses.

Examples of opportunities to promote appropriate emergency response information include:

- Ensuring that this aspect of school drug education is included at all age levels and in each and every year of education;
- Expanding simplified first aid training for young people consistent with the Drug and Alcohol Office's *Breathe* project;
- Developing and promoting resources for young people, such as a business card featuring simplified first aid information and the 000 emergency number;
- Including information in general drug and alcohol public health campaigns;
- Targeting parents with information to pass onto their children about simplified first aid emergency numbers; and
- Exploring innovative ways to promote the message through popular websites, point of sale of prepaid mobile cards and bluetooth advertising at targeted locations.

Recommendation: Emergency responses - vigorously promoting the right responses by young people

- Develop and sustain a variety of strategies to promote appropriate emergency responses by young people including seeking ambulance assistance, being aware of overdose and applying basic first aid.

8. Treatment

There are services throughout the state that can assist people who have problems with volatile substance misuse. The key agencies are the community drug service teams across the state.

Rose (2006) outlines four categories of treatment response for volatile substance use:

- Short-term problems of intoxication including overdose, bingeing, and impulsive, antisocial behaviour.
Treatments: Targeted, focused and mostly short-term.
- Management of experimental and social use.
Treatments: brief interventions including motivational work, harm reduction, use of positive peer influence and provision of alternative activities.
- Chronic, heavy use and dependent use.
Treatments: (longer-term) inter-agency case management, detoxification (either outpatient or residential), medical investigation and management, rehabilitation and 'habilitation' teaching life skills and building delayed emotional and social development.
- Brain and/or organ damage from longer term use, accidental suffocation resulting in brain damage or accidents such as motor vehicle trauma.
Treatments: assessment and long-term management of disabilities with a primary focus on enhancing abilities and a secondary focus on dealing with disability.

Users of volatile substances are less inclined than other drug users to access drug treatment services because most use is experimental or of short duration, while chronic users are likely to have very chaotic lives and a wide range of social problems. This was reflected in the taskforce's consultation with community drug service teams, only some of which reported seeing people with solvent misuse problems and in very small numbers. The largest numbers of young people who misuse solvents are engaged with the Swan Youth Service in Midland, an agency that has focused on this client group for many years. The service largely provides support and activities rather than therapy based treatment.

This suggests that there is some need to offer a different approach where there is a community need for people to access treatment and for families particularly to be more aware of avenues for support.

In the course of the taskforce's consultations with the community drug service teams and other agencies, many staff indicated that the lack of regular exposure to people misusing volatile substances meant that their knowledge and skills were not as strong in this as other areas. Community based drug and alcohol and youth workers particularly need to have the knowledge, skills, confidence and competence to respond

effectively to volatile substance misuse in their regions. As outlined in the recommendations regarding professional education, it is anticipated that this be addressed through professional education activities that have greater content focusing on butane specifically, and a more proactive approach that engages key agencies and supports local partnerships.

Within the network of services in Western Australia, the community drug service teams across the state with their mandate to provide treatment and prevention, and to support community partnerships in doing so, remain best placed where a need arises for treatment responses. This is particularly so as community drug service teams are also the appropriate agencies to lead community interventions including monitoring the occurrence of local 'fads' to inform school and parent education, and working with retailers and police to restrict supply.

Recommendation: Treatment - available when it is needed

- Reinforce the role of community drug service teams as the key provider of treatment for volatile substance misuse with a view to developing more proactive approaches to engage users in conjunction with the teams' prevention and community partnership role.

9. Monitoring and research

While the taskforce has been able to gain a fairly comprehensive picture of butane and other volatile substance misuse in Western Australia, covering prevalence, patterns of use and mortality, this has required dedicated investigations that are not part of regular practice or data collection systems.

As the WA Volatile Substance Use plan (2005) emphasises data is fundamental to gain a clear understanding of the issue and to inform policy development, identify trends, monitor changes, anticipate emerging issues and assess the outcomes of interventions.

The Victorian Parliament Drugs and Crime Prevention Committee (2002) recommended the development of a monitoring and research program and agenda to address volatile substance misuse prioritizing the following:

- Comprehensive data collection with regard to the nature and extent of volatile substance abuse state-wide [in Victoria]. Such data should include a focus on both local and state-wide trends;
- The ongoing collation and analysis of data with regard to deaths occurring as a direct or indirect result of volatile substance abuse;
- Qualitative research into the patterns and culture of volatile substance abuse, particularly among disparate groups of young [Victorians];
- Qualitative research into volatile substance abuse among adult [Victorians];
- Research into the deliberate inhalation of volatile substances for the purposes of intoxication in the workplace;
- Research into the feasibility of further product modification of volatile substances and volatile substance containers; and
- Medical research into the effects of volatile substance abuse and any specific treatment modalities that could be used to address it as due to the specific attributes, characteristics and antecedents associated with volatile substance abuse the committee believes that generalist substance abuse treatment programs may not be appropriate.

The taskforce considers that most research issues are best managed as national projects but concurs with the Victorian committee that Western Australia also needs comprehensive data on the nature and extent of volatile substance misuse focusing on both local and state-wide trends; ongoing collation and analysis of data with regard to deaths occurring as a direct or indirect result of volatile substance abuse, and qualitative information on the patterns and culture of volatile substance abuse, particularly among disparate groups.

Currently, broad estimates of prevalence among school students are available through the triennial Australian School Students Alcohol and Drug survey and these data have been improved by the addition of questions in the 2005 survey addressing the type of substance used and the settings in which this has occurred. While it is reasonably clear that this data largely reflects experimental use among a relatively large number of young people, the exact nature of the misuse is not defined.

More detailed information about patterns of use and local community level data is not generally available and has been gathered by the taskforce through key informants and outreach investigations. Given the current extent of butane and other solvent misuse Western Australia, this information is critical to determining appropriate education and community interventions at the local level.

The Drug and Alcohol Office's coronial database has been useful in identifying cases of death due to butane misuse and the circumstances surrounding those deaths. This database is unique in Australia. There is not currently a regular or standardised process to assess or publish this information. In this respect the United Kingdom system managed by the St Georges Hospital Medical School (Field-Smith et al 2006) provides an exemplar. It uses a standard definition of volatile substance deaths and the continuity of reporting has allowed for effective monitoring of trends and the impact of policy changes.

Recommendations: Monitoring and research - to target strategies

- Develop and maintain local reporting systems based on the key informant and outreach investigation approach undertaken by the taskforce.
- Develop further the Drug and Alcohol Office's coronial database to regularly and accurately report butane and other volatile substance misuse related mortality, and provide this information to other jurisdictions with a view to promoting compatible data collections in other Australian jurisdictions.
- Develop a more detailed study of the nature of volatile substance misuse for a cohort of students completing the Australian School Students Alcohol and Drug survey.

10. Organisation and co-ordination

The effective implementation and the impact of the recommendations developed by the taskforce require clear responsibility and a dedicated co-ordination role in the Drug and Alcohol Office. The agency should allocate a full time position for the next one to two years to co-ordinate the implementation of the taskforce recommendations and oversee the implementation of the broader WA Volatile Substance Use plan. The status of the position will be assessed annually and maintained at a reduced level if circumstances are appropriate.

Additionally the Drug and Alcohol Office should identify responsible officers in each of its directorates – treatment, prevention and professional education – to take responsibility for the relevant developments.

The recommendations of the taskforce also encompass actions by the key agencies of WA Police, School Drug Education and Road Aware (covering all school sectors) and the community drug service teams. The taskforce has benefited greatly from the participation of these agencies in developing the recommendations.

The Drug and Alcohol Office should also keep the broader network of state human service agencies informed and participating as appropriate through the WA Drug and Alcohol Strategy Senior Officers Group.

Recommendations: Organisation and co-ordination - to ensure action occurs

- Allocate a full time position at the Drug and Alcohol Office for at least the next one to two years to co-ordinate the implementation of the recommendations of the taskforce and oversee the implementation of the broader WA Volatile Substance Use plan; and put in place supporting arrangements across treatment, prevention and professional education areas.
- Support the WA Police, School Drug Education and Road Aware and community drug service teams to lead the local implementation of relevant recommendations.
- Engage the broader network of state human service agencies to participate as appropriate through the WA Drug and Alcohol Strategy Senior Officers Group.

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