

DRUG POLICY MODELLING PROJECT
MONOGRAPH 01

**WHAT IS AUSTRALIA'S "DRUG BUDGET"?
THE POLICY MIX OF ILLICIT DRUG-RELATED
GOVERNMENT SPENDING IN AUSTRALIA**

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Drug Policy Modelling Project Monograph Series

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THE DRUG MODELLING POLICY PROJECT

This monograph forms part of the Drug Policy Modelling Project (DPMP) Monograph Series.

Drugs are a major social problem and are inextricably linked to the major socio-economic issues of our time. Our current drug policies are inadequate and governments are not getting the best returns on their investment. There are a number of reasons why: there is a lack of evidence upon which to base policies; the evidence that does exist is not necessarily analysed and used in policy decision-making; we do not have adequate approaches or models to help policy-makers make good decisions about dealing with drug problems; and drug policy is a highly complicated and politicised arena.

The aim of the Drug Policy Modelling Project (DPMP) is to create valuable new drug policy insights, ideas and interventions that will allow Australia to respond with alacrity and success to illicit drug use. DPMP addresses drug policy using a comprehensive approach, that includes consideration of law enforcement, prevention, treatment and harm reduction. The dynamic interaction between policy options is an essential component in understanding best investment in drug policy. Stage One has: a) produced new insights into heroin use, harms, and the economics of drug markets; b) identified what we know about what works (through systematic reviews); c) identified valuable dynamic modelling approaches to underpin decision support tools; and d) mapped out the national policy-making process in a new way, as a prelude to gaining new understanding of policy-making processes and building highly effective research-policy interaction.

This Monograph (No 01), the first in the series, outlines work by Tim Moore to establish estimates of government spending for the year 2002/03. This is not a social cost (or burden of illness) study but an examination of how much governments (federal, state and territory) spend on responses to illicit drugs. Two types of spending have been identified: spending on direct policy actions (such as drug treatment, or policing drug offences) and spending on the indirect or consequential aspects of illicit drug use (such as ambulance attendance at overdose). The former are referred to as 'proactive' spending; the latter as 'reactive spending'. Proactive spending, the direct actions of government in relation to drug policy, are broken down by type of intervention: prevention, treatment, harm reduction, law enforcement and interdiction. The total estimate for proactive illicit drug spending is \$1.3 billion for 2002/03. Law enforcement represents 42% and interdiction 14%, together comprising the majority of spending. Prevention represents 23% and treatment 17%. Sensitivity analyses reveal large plausible ranges for some of the figures.

This work is vital to understanding the current government investment, but it does not permit judgements about what the spending should be, nor its distribution. In order to take it to the next step, dynamic models of policy impacts are required. These models use as their foundation the potential cost savings if policy is shifted.

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

Monographs in the series are:

01. What is Australia's "drug budget"? The policy mix of illicit drug-related government spending in Australia
02. Drug policy interventions: A comprehensive list and a review of classification schemes
03. Estimating the prevalence of problematic heroin use in Melbourne
04. Australian illicit drugs policy: Mapping structures and processes
05. Drug law enforcement: the evidence
06. A systematic review of harm reduction
07. School based drug prevention: A systematic review of the effectiveness on illicit drug use
08. A review of approaches to studying illicit drug markets
09. Heroin markets in Australia: Current understandings and future possibilities
10. Data sources on illicit drug use and harm in Australia
11. SimDrug: Exploring the complexity of heroin use in Melbourne
12. Popular culture and the prevention of illicit drug use: A pilot study of popular music and the acceptability of drugs
13. Scoping the potential uses of systems thinking in developing policy on illicit drugs

DPMP strives to generate new policies, new ways of making policy and new policy activity and evaluation. Ultimately our program of work aims to generate effective new illicit drug policy in Australia. I hope this Monograph contributes to Australian drug policy and that you find it informative and useful.



Alison Ritter
Director, DPMP

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TABLE OF CONTENTS

Introduction	1
Objectives	1
Limitations.....	2
Classification and approach	4
Classification of expenditure.....	4
Practical issues.....	5
Approach	6
Social cost studies	6
Government responsibilities	7
Federal Government.....	7
State and Territory governments.....	7
Local governments	8
Prevention	9
School-based drug prevention programs	9
General illicit drug prevention activities.....	10
Treatment	12
Drug treatment services.....	12
Opioid maintenance pharmacotherapy	13
Correctional services treatment.....	14
Drug diversion	15
Harm reduction.....	16
Needle and syringe programs	17
Other harm reduction policies.....	17
Law enforcement.....	18
State and territory police services.....	18
Australian Crime Commission.....	19
Judicial resources	19
Legal expenses.....	20
Corrective services.....	21

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

Law enforcement expenditure not elsewhere included..... 22

Interdiction23

 Australian Federal Police 23

 Australian Customs Service..... 23

 Other interdiction and country control agencies 24

Proactive expenditure not elsewhere included25

 Policy administration..... 25

 Information services 25

 Research 26

Reactive expenditure (dealing with drug-related consequences)28

 Health consequences..... 28

 Crime consequences 32

 Other consequences 38

Australia's drug budget.....40

 Sensitivity analysis..... 42

Discussion48

References51

Appendix A: Summary of government spending estimates..... 59

LIST OF TABLES

Table 1: Federal and state government expenditure on drug-related education (2002-03).....	10
Table 2: General Practitioner costs for pharmacotherapy maintenance (2002-03)	14
Table 3: Federally-funded research institutions (2002-03)	26
Table 4: Victorian ambulance incidents and expenditure (2002-03).....	30
Table 5: Ambulance callouts and costs	31
Table 6: Summary of health consequences expenditure (2002-03).....	32
Table 7: Drug attributable fractions by types of crime for detainees (2001-02)	32
Table 8: Drug attributable fractions by types of crime for male prisoners (2001)	33
Table 9: Drug attributable fractions by types of crime for female prisoners (2003-04)	33
Table 10: Estimate of the drug-attributable policing costs of crime (2002-03)	34
Table 11: Estimate of the drug-attributable expenditure on higher courts (2002-03)	35
Table 12: Estimate of the drug-attributable expenditure on magistrates' courts (2002-03).....	36
Table 13: Summary of expenditure on crime-related consequences (2002-03)	38
Table 14: Sensitivity analysis: Low, main and high estimates and explanatory notes.....	43
Table 15: Summary of sensitivity analysis: Government expenditure and proportion of total.....	46
Table 16: Expenditure by government level: main estimate and sensitivity analysis (2002-03).....	47
Table 17: Distribution of a hypothetical and actual \$100 for reducing the use of selected drugs (2001)	49

LIST OF FIGURES

Figure 1: Summary of government expenditure (2002-03)	40
Figure 2: Summary of state and territory government expenditure (2002-03).....	41
Figure 3: Summary of Federal Government expenditure (2002-03)	42

INTRODUCTION

Estimates of federal government spending on illicit drug policies (known as “drug control budgets” or “drug budgets”) were first developed in the United States in 1973 (Walsh, 2004). In America, they are coordinated and endorsed by the White House’s Office for National Drug Control Policy (ONDCP). Other countries have also estimated what they spend on controlling illicit drugs. Kopp and Fenoglio (2003) compared the spending on illicit drug policy by 15 European countries between 1990 and 2000 for the European Monitoring Centre for Drugs and Drug Addiction. Ramstedt (forthcoming) and Rigter (forthcoming) recently conducted a similar exercise for, respectively, Sweden and the Netherlands.

In Australia, there is little understanding of the nature and magnitude of government spending in this area. This is not surprising given the difficulties in developing a drug budget. Relevant spending occurs across all levels of government and across many government sectors, such as health, policing, customs and education. Much of what are considered drug-related¹ activities are embedded within programs with broader goals. And in the absence of a particular requirement to estimate their drug-related spending, departmental documentation rarely contains enough detail and consistency to apportion their spending between activities that are related to illicit drugs and those that are not.

Despite these limitations, such an exercise is an important step in understanding and evaluating the approach Australian governments take to limiting the use and abuse of illicit drugs. It provides an opportunity to consider where the greatest opportunities for policy reappraisal lie, and how well rhetorical statements translate into budgetary commitments. Furthermore, there is policy evaluation (e.g. McFadden and Mwesigye, 2001) and modelling (eg. Caulkins et al., 2004) which relies on good information about the expenditures and costs associated with illicit drugs. In this monograph, we take a first step in gaining a better understanding of the size and composition of Australian government spending in this area.

Objectives

The purpose of this monograph is, in some detail, to:

1. Establish a conceptual framework for measuring and classifying drug spending in Australia by federal, state and territory, and local governments;
2. Estimate spending by the Federal Government and state and territory governments in Australia in the financial year 2002-03 on the basis of publicly available documentation and consultation with governments;
3. Classify expenditure to enable some assessment of the policy mix to be made; and
4. Identify important information gaps and areas where further analysis will narrow the range of plausible estimates.

A conceptual framework is vital. Reuter (forthcoming) attempts to develop a comprehensive framework for determining what should be included in such an exercise and how expenditure should be estimated. Much of this framework is applied to the Australian system, although practical issues

¹ “Illicit drug policy” and “drug policy” will be used interchangeably; both refer only to illicit drugs unless otherwise stated.

lead to a significant number of deviations and additions. The discussion of these issues should enable the reader to understand how this estimate compares to studies in other countries; while we have sought to develop the most comprehensive estimate possible, every effort is made to be consistent with other studies wherever possible.

An estimate is then developed for 2002-03, a recent financial year for which there is detailed government expenditure information. Given the heterogeneity of the activities considered, there is careful documentation of the data sources and calculations conducted. Sensitivity analysis is also performed. These efforts allow some statements to be made about current expenditure commitments and also highlight the areas of greatest uncertainty.

Limitations

This report is ambitious, and caution must be exercised in using the results. There are several limitations that are important to state at the outset. They will be considered in more detail throughout the report and whenever any inferences are made; it should be understood that there are additional assumptions and limitations within specific sections of the monograph.

First, this is not an economic evaluation of Australian governments' policies on illicit drugs, as there is no consideration given to the relationships between policies and the consequences of illicit drug use. The information may identify policies worth evaluating or deserving of more research. However, the best use of resources may involve, for example, greater expenditure on law enforcement than prevention, or may involve more being spent on treatment in Australia than Sweden. This document does not provide sufficient information to evaluate whether the mix of Australia's illicit drug policies are optimal.

Second, it is frequently necessary to apply indirect measures of illicit drug-related activities, which in some cases are major simplifications of way expenditure is allocated. For example, "proactive" policing is based on the proportion of arrests where the principal offence is a drug offence. Ideally, an estimate of proactive policing expenditure would be based on budget allocations for specialist drug squads, general policing time spent on planned, drug-specific operations, and spending on additional activities such as forensic analysis, intelligence gathering and community education. Unfortunately, this sort of information is not available. The solution has been to use plausible alternative measures, but the simplification inherent in doing so should be recognised.

Third, the expenditure allocated to a particular activity may not necessarily be equally available for other illicit drug activities. For example, the estimate of spending on school-based education programs includes system-wide costs, such as buildings and central administration. If these programs were to cease, little spending could be transferred outside the school system; instead, most of those resources could only be allocated to alternative curricula. The overall expenditure estimate should not be thought of a "pot" of money that governments can transfer easily between sectors.

Fourth, the estimate cannot be easily compared to estimates from other countries or other periods. The estimate has been made as comprehensive as possible, and has not been driven by a desire to match up with partial Australian estimates done in the past, or with studies done in other countries. Caution should be taken in any comparison across countries or over time.

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

Fifth, much of the analysis relies on the assumption that state and territory governments have similar approaches to illicit drug policy. The information gaps are such that this assumption is necessary in order to build up a picture of government spending. Given the intergovernmental structures that have operated for many years in Australia, this is a reasonable assumption and should lead to a reasonable estimate. Most of the time, spending in different states and territories is combined but, even when that is not the case, this information should not be used for comparative purposes.

Finally, any use of the figures should also consider the sensitivity analysis. Details on the sensitivity analysis are provided later in the monograph. The ranges between high and low estimates will give the reader a good understanding of the quality of the information upon which particular estimates are based.

CLASSIFICATION AND APPROACH

There is not a uniform approach to estimating government spending on illicit drug policies. Studies differ in what costs are included, and how they are classified and measured. Recent work by Reuter et al. (2004) and Walsh (2004) highlights the importance of considering these questions explicitly, so the approach chosen provides a comprehensive, understandable and realistic picture of government activity.

Reuter, Ramstedt and Rigter (2004) developed a conceptual framework for determining what should be included in drug budgets and how expenditure should be estimated. They argued a program should be included if either: 1) drug-related benefits constitute a large part of the overall program benefits; 2) the program has substantial drug-related consequences; or 3) the drug-related benefits are proximate (and thus easy to apportion between drug-related and other expenditure).

When it comes to expenditure on the consequences of illicit drug use, there also needs to be a causal relationship between illicit drug use and government expenditure. There can be a significant difference between the number of incidents that *involve* the use of illicit drugs and the number that are *caused* by the use of illicit drugs. Consequences should only be included if they can be attributed to illicit drugs. Fortunately, there has been considerable work in Australia on developing attributable fractions for the health and crime effects of illicit drugs.

Classification of expenditure

The UK Home Office (2002) distinguishes between whether a program is "proactive" or "reactive". Proactive expenditures are categorised as those that address illicit drug use problems directly – they are explicit policy commitments – while reactive expenditures are associated with the consequences of illicit drug use, such as drug-attributable crime and health costs. The UK Home Office states that one of the key principles underpinning their drug strategy is the need to change spending priorities from reactive expenditure to proactive expenditure.

The proactive/reactive distinction is used as a central organizing principle of this paper. Classifying some expenditure is relatively straightforward: methadone maintenance treatment is a proactive program, while ambulances for illicit drug overdoses are reactive. Perhaps a useful way to think about the distinction is in terms of "targeting". Methadone maintenance is specifically targeted at drug users. Ambulances, on the other hand, are there for people in need of rapid medical assistance, whether or not that has been caused by illicit drug use.

The notion of targeting makes it easier to determine the distinction when it comes to less intuitive areas of government activity. Law enforcement is one such area. Drug-defined offences are targeted at illicit drug activities, and efforts to enforce such offences should be viewed as attempting to decrease drug use. On the other hand, property crime offences are not targeted at illicit drug use, and are enforced whether or not they have been caused by illicit drug use.

The composition of the proactive expenditure is of further interest, because it reveals how governments are attempting to address the "drug problem". Proactive expenditures are the ones that

governments generally have most control over; they can be further classified in relation to the objectives associated with them. A standard classification for illicit drug policies is in terms of whether they are focused on health or law enforcement (Kopp and Fenoglio, 2003). We have further divided the broad category of health into the more specific categories of treatment, prevention and harm reduction. And for this exercise it is useful to separate law enforcement into law enforcement and interdiction as interdiction control occurs at the national or international level and is generally conducted by administrative units different to local enforcement activities.

Therefore, expenditure on illicit drug related expenditures are divided into:

1. Proactive expenditure (direct drug policy)
 - a) Prevention
 - b) Treatment
 - c) Harm reduction
 - d) Law enforcement, and
 - e) Interdiction
2. Reactive expenditure (consequences of drug use)

In the subsequent sections, the various government activities are organised into these six categories.

Practical issues

There are a few other practical issues important to the analysis. First, while classification should be based upon program content, there is sometimes insufficient information to judge content. When this occurs, classifications are made on the basis of overall agency aims. This means that police expenditures are considered to be law enforcement, even though education programs they run should be included as prevention expenditure. Second, even when there is good information about a program, there can be more than one objective of a program (eg. outreach programs can have prevention and harm reduction objectives). Classification will be based on the primary objective of the program, which is a necessary simplification for this sort of exercise.

Third, expenditure can be identified in the budget process or assessed after the spending has occurred (Reuter et al., 2004). There could be arguments for using either, depending on whether the commitments or the actions of governments were of greatest concern. We are attempting to understand government actions and activities in practice so, where outcomes are available – such as funding for the actual number of clients receiving drug treatment rather than budgeted funding – they will be used.

Fourth, average costs rather than marginal costs are used. Where an agency has multiple objectives or programs, there will be some costs that relate to all functions but would still be incurred if the drug-related functions were removed (e.g. central office administrative costs). However, it seems reasonable to allocate agency-wide costs on the basis of the allocation of resources in the agency or program.

Fifth, substance abuse programs are often designed to address issues associated with licit as well as illicit drug use. There is not always information on the “principal drug of concern”. As a default

assumption, half of any general substance abuse program will be attributed to illicit drugs, giving illicit and licit (generally alcohol and tobacco) approximately equal weight.

Finally, there is the issue of how to handle indirect costs borne by governments. As a result of illicit drug use, governments have to provide resources (e.g. welfare payments) and forego revenue (e.g. income tax). The complexities inherent in modelling such effects for illicit activities are significant, and are too difficult to handle in this first attempt at developing Australia's "drug budget". Indirect costs will not be quantified.

Approach

Every effort has been made to ensure that the development of this estimate is accurate and transparent. At the federal level and in all states and territories, the budgets and annual reports of potentially relevant government agencies were reviewed, and relevant information was identified. Government agencies were then approached for further information, primarily through their representatives on the Intergovernmental Committee on Drugs. When agency representatives provided further information, the estimates were adjusted to reflect this. It should be noted that many agencies either did not or were unable to provide further information, so this process did not result in what could be considered a government-endorsed estimate. However, this process hopefully provided the most effective way to develop an estimate that is accurate and can be developed further in the future.

Social cost studies

The work of Collins and Lapsley (1992; 1996; 2002) on the "social costs" of drug abuse is quoted extensively in Australian drug and alcohol literature. As their studies and this one both consider government spending, it is worth stating the important ways in which they are different. Social cost studies² such as those by Collins and Lapsley use an epidemiological database with financial information to estimate the costs to society of a particular disease (Single et al., 2003). They estimate the value of resources that would be available if the consumption of illicit drugs ceased.

The goals here are quite different. This is a "drug budget" study; we primarily want to understand the mix of government policy. This involves developing the best estimate of government spending and also determining appropriate "high" and "low" estimates. On the other hand, when Collins and Lapsley measure "social cost", they adopt a "conservative" approach and take the lowest estimate they are comfortable with. Where the consequences of illicit drug use have a weak research base, no expenditure is attributed (Reuter, 1999). In addition, social cost studies do not classify expenditure by the goals of the programs or make any assessment of the policy mix.

While the work of Collins and Lapsley is useful in specific areas, the approach taken here is different and leads to quite different conclusions.

² They are also known as "cost-of-illness" or "burden of disease" studies.

GOVERNMENT RESPONSIBILITIES

The *National Drug Strategic Framework 1998-99 to 2002-03* (Ministerial Council on Drug Strategy, 1998) sets out the roles and responsibilities of different governments in Australia. Consideration of the responsibilities is important for identifying expenditures and understanding the likely effect of omitting local government expenditures from the analysis.

Federal Government

The Federal Government has a range of responsibilities. With the departments associated with each area of responsibility identified in brackets, they include:

- National policy management, development, coordination and support (Department of Health and Ageing);
- Medical and hospital treatment through Medicare and pharmaceutical products through the Pharmaceutical Benefits Scheme and pharmacotherapy maintenance programs (Department of Health and Ageing);
- Coordination of a National School Drug Education Strategy (Department of Education, Training and Youth Affairs);
- Monitoring adherence to international treaties, and policy development and implementation in the areas of crime prevention, money laundering, extradition, mutual assistance and illicit drug supply reduction and law enforcement (Attorney-General's Department);
- Border control activities (Australian Customs Service);
- Investigating offences associated with the importation of illicit drugs into Australia (Australian Federal Police);
- Disrupting the international supply of illicit drugs (Australian Federal Police, Australian Customs Service, Australian Crime Commission); and
- Collecting and analysing crime-related intelligence and investigating organised criminal activities such as illicit drug dealing (Australian Crime Commission).

State and Territory governments

There are also several state and territory government responsibilities. The agency that is responsible for certain activities sometimes differs from state to state. The responsibilities are:

- Drug policy development, implementation and evaluation within their jurisdiction (State-dependent; often the health authority);
- Controlling the supply of illicit drugs and enforcing laws through specialist law enforcement units and general policing (Police service);
- Designing, developing and implementing public information and education prevention programs (Health departments);
- Supporting drug treatment services (Health departments);
- Managing the criminal justice system (Departments of justice);

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

- Providing public sector health services or funding community-based organisations to provide drug prevention and treatment programs (Health departments);
- Establishing an appropriate public policy framework to deal with drug use and drug-related harm in areas such as housing, school-based drug education, criminal justice and juvenile justice, and liquor licensing (State-dependent; normally multiple departments); and
- Analysing and monitoring patterns of drug use and drug-related harm (State-dependent).

Local governments

Local governments also have responsibility in dealing with illicit drug use, including:

- Community safety initiatives and public place management strategies;
- The development of local drug and alcohol action plans; and
- Support for treatment services and the operation of needle and syringe exchange programs, particularly in relation to waste disposal (i.e. the provision of safe disposal chutes for used syringes and the operation of services to collect discarded syringes).

Most drug budgets have focussed on the national government expenditure. In the United States, there has been no regular effort to estimate the expenditure by state and local governments. An estimate of 1991 state and local expenditure in the US found spending comparable to the figure for that year (Reuter et al., 2004). In Australia, state and territory governments have substantial responsibilities so they are important to include. The inclusion of local governments was beyond the scope of this paper; given their responsibilities, it would be unlikely that this would make a significant difference to the overall results.

PREVENTION

Box 1 Prevention expenditure in 2002/03

Government spending on prevention activities was estimated to be \$303.9 million, with the Federal Government spending \$57.4 million and the state and territory governments spending \$246.5 million.

The largest portion of funding went to school-based drug education programs, which received \$56.3 million in federal funding and \$207.9 million in state and territory funding. The remaining funds went to general drug prevention activities.

Education departments primarily undertake school-based drug prevention programs, while most other activities – largely population health and community-building measures – are undertaken by health (or human services) departments. These two categories of prevention expenditure are considered in turn.

School-based drug prevention programs

State and territory governments determine curricula, regulate school activities and provide most of the funding. This creates significant differences in school systems and curricula across Australia. Fortunately, drug education appears to be an area where the various governments have adopted a reasonably consistent approach. All state and territories have programs which accord with and are funded under the Federal Government's National School Drug Education Strategy (NSDES). The NSDES was developed in 1999 as part of the National Drug Strategic Framework (Commonwealth Department of Education Training and Youth Affairs, 1999).

Expenditure on drug education materials and teacher training is the most visible spending in this area. However, Caulkins, Rydell, Everingham, Chiesa and Bushway (1999) argue that expenditure estimations should also include staff time and the cost of the school facilities used to house drug prevention classes, on the basis that it gets closest to estimating the learning opportunities that are foregone by the delivery of prevention programs. The estimate here is based on the proportion of classroom time spent on this drug education multiplied by school education budgets for all jurisdictions. With no division available between classroom and non-classroom activities within these budgets, it is assumed that non-classroom components of drug education, such as the development of curricula, school-specific strategies, parent forums and student welfare services are reflected in the estimate on the basis that the education budgets include general non-classroom as well as classroom school costs.

The best available information on how much time is devoted to classroom-based drug education each year comes from the Victorian Auditor General (2003), who surveyed 100 government schools as part of a performance audit. They provided a breakdown of the hours in 2002 by year-level, which can be used to develop an average number of hours of drug education per year. The average number of VCE (Years 11 and 12) hours fall to 2.5 hours if adjusted for a 35% participation rate and, if that figure together with the Years 5 to 10 figures are apportioned over the entire 13-year

school career, then there is an average 5.8 hours per year of drug-specific education and 18.9 hours per year of social competencies education annually.³ It is assumed that only 50% of this activity relates to illicit drug research (with the remainder attributed to alcohol and tobacco).

The number of drug-related hours needs to be divided by the total hours of curriculum, estimated to be 1,181 hours.⁴ Using this and the 50% attribution to illicit drugs, it is estimated that drug-specific education constitutes 0.2% of all classroom activities and that related social competencies education constitutes 0.8% of classroom activities. This estimate is based on government schools, and it is assumed that there are similar levels of drug education in government and non-government schools.

Both drug-specific and social competencies hours are considered drug-related, and extrapolated across Australia. In 2002-03, the Federal Government spent \$1,776 million on government schools and \$3,612 million on non-government schools. State and territory governments spent \$18,460 million on government schools and \$1,422 on non-government schools (Steering Committee for the Review of Government Service Provision (SCRGSP), 2004). Applying the Victorian hours of drug education to these expenditure figures yields the government estimates outlined in Table 1. It is estimated that the Federal Government spent \$56.3 million and state and territory governments spend \$207.9 million in 2002-03.

Table 1: Federal and state government expenditure on drug-related education (2002-03)

Component	Federal Govt (\$m)			State/Territory govts (\$m)			Australian govts (\$m)		
	Govt	Non-govt	All schools	Govt	Non-govt	All schools	Govt	Non-govt	All schools
Drug-specific	\$ 4.3	\$ 8.8	\$ 13.2	\$ 45.1	\$ 3.5	\$ 48.6	\$ 49.5	\$ 12.3	\$ 61.8
Social competencies	\$ 14.2	\$ 28.9	\$ 43.2	\$ 147.9	\$ 11.4	\$ 159.3	\$ 162.1	\$ 40.3	\$ 202.4
Total	\$ 18.6	\$ 37.8	\$ 56.3	\$ 193.0	\$ 14.9	\$ 207.9	\$ 211.6	\$ 52.6	\$ 264.2

Source: SCRGSP (2004), Victorian Auditor General (2003) and author's calculations.

General illicit drug prevention activities

There is a diverse array of other activities that are undertaken by Australian governments and considered to be preventing drug use. They include:

- Out-of-school education programs, where people are targeted on the basis of their behaviour, family situations or location;
- Early intervention programs for people at risk of involvement with alcohol and drugs;
- Public education campaigns; and
- Community strengthening projects aimed at preventing drug abuse by improving local environments for young people.

³ Full school retention is assumed until Year 10; an average retention of 80% is assumed for Years 11 and 12, based on ABS (2005a).

⁴ To calculate the total hours, it is assumed that school students spend: 1) 30 hours per week on curriculum-based activities; 2) 40 weeks per year at school in their first 11 years of school; and 3) 35 weeks per year at school in Years 11 and 12. With an average retention rate in Years 11 and 12 of 80%, this produces an average number of hours spent on curriculum-based activities of 1,181 hours.

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

At the state and territory level, the health (or human services) departments are commonly responsible for most of the funding. It is not possible to identify individual prevention programs run by these departments. Instead, budget outputs in Victoria and Western Australia that are closely aligned with prevention expenditure, together with prevention expenditure information supplied by the South Australian Drug and Alcohol Office, can be extrapolated to other states on the assumption that the intergovernmental strategies and structures lead to similar prevention activities in each state and territory.

In Victoria, nearly all prevention activities were conducted or funded through the Victorian Department of Human Services (VDHS) (BearingPoint, 2004). The VDHS (2003) report that they spent \$12.3 million on "Drug prevention and control" in 2002-03. This includes funding for the Premier's Drug Prevention Council (VPDPC), a body who is auspiced under the VDHS and whose expenses were \$3.7 million in 2002-03 (VPDPC, 2003). In addition, the Victorian Department of Premier and Cabinet provided \$0.1 million of funding for drug policy and services through the Community Support Fund in 2002-03 (Victorian Government, 2002). The Western Australian Drug and Alcohol Office (2003) reported that \$7.0 million was spent on "Prevention and promotion" in WA in 2002-03. Most promotion would be about preventing illicit drug use, so this category was assumed to consist entirely of prevention expenditure.

Given that many prevention activities focus on the general population, extrapolation was based on the Australian Bureau of Statistics' population figures for June 2003 (ABS, 2003). If half of the expenditure is attributed to illicit drugs, the Victorian and Western Australian estimates amount to \$1.28 and \$1.79 per person respectively. The South Australian illicit drug prevention estimate is higher, with expenditure averaging \$4.26 per person. These differences may be due to per person expenditures needing to be higher in less populous states (due to many of the costs being fixed), and could also reflect differences in the timing of prevention campaigns. By taking the average of these figures weighted by population and extrapolating them across all Australian jurisdictions, it is estimated that \$38.6 million was spent on illicit drug prevention activities by state and territory governments.

At the federal level, there are several types of prevention expenditure. One is the Community Partnerships Initiative, which is a prevention initiative modelled on the World Health Organisation's "Global Initiative on Primary Prevention of Substance Abuse" (National Drug Research Institute, 2002). In 2002-03, the Federal Government spent \$1.7 million on the Community Partnerships Initiative, as well as \$0.3 million on Croc Festivals⁵ under the National Drug Strategy and \$120,000 on media campaigns (it should be noted that media campaign expenditure is highly variable, and is much higher in other financial years) (Federal Department of Health and Ageing internal estimate). Attributing all of the media spending and half of the other activities to illicit drugs, it is estimated the Federal Government spent \$1.1 million in 2002-03.

⁵ They are similar to Rock Eisteddfod programs and are for school children in remote areas of Australia.

TREATMENT

Box 2 Treatment expenditure in 2002/03

Government spending on treatment activities was estimated to be \$229.2 million, with the Federal Government spending \$65.0 million and the state and territory governments spending \$164.2 million.

The largest portion of funding went to drug treatment services, which received \$9.5 million in federal funding and \$137.2 million in state and territory funding. The most significant expenditures for the Federal Government were pharmacotherapy maintenance (\$29.0 million) and drug diversion (\$26.5 million), while state and territory governments spent \$27.0 million on prison treatment services.

There is a range of drug treatment services operating in Australia. While approximately half are provided by non-government organisations, most of these treatment services receive funding from federal and state/territory governments. In addition to the main treatment services, there are two other activities that could be considered treatment expenditure: prison-based drug treatment and drug diversion programs.

Of the proactive expenditure categories, treatment and harm reduction are the hardest categories in which to quantify government expenditure. There is a wide range of different treatments employed in Australia, and the way they are funded differs across the states and territories. Episode numbers are either counted cumulatively or via a periodic census, and can be based on actual client numbers or the number of permits or beds that have been made available. For pharmacotherapy and other GP-administered treatments, the Medical Benefits Scheme coding is too broad to count the number of consultations. In addition to these issues, treatment expenditures can sometimes be located within district-level budgets of state health authorities.

As a result of these particular issues, the process used to develop an estimate is necessarily blunt, ignoring differences in treatment delivery and funding sources. This is simply meant to alert the reader, not diminish the value of the exercise. The estimate can be expected to be in the "ball park", the levels of uncertainty are addressed in the appendices, and one of the outcomes of this exercise is that we develop an understanding of what elements of government spending we know little about.

Drug treatment services

The estimate is based on budget information from the Federal Government and State and Territory governments in combination with Australian Institute of Health and Welfare's *Alcohol and Other Drug Treatment Services National Minimum Data Set* (AODTS), which provides information on the number of treatment providers and treatment episodes across all jurisdictions in Australia (AIHW, 2004a).

In AODTS, 130,930 closed treatment episodes were recorded, which related to an estimated 108,042 client registrations in 2002-03 (AIHW, 2004a). This includes treatment by all publicly funded government and non-government agencies that provide one or more specialist drug treatment services. Specialist alcohol and drug units based in acute care hospitals or psychiatric hospitals were

included if they provided outpatient services. There were two state-specific omissions: Queensland data did not include clients who accessed treatment through non-government agencies, and Tasmanian data did not include information relating to police and court diversion programs.⁶ After adjusting for these, it was estimated there were 153,613 episodes in 2002-03.

The Victorian Government provides reasonably good information on what they spend on drug treatment. In addition, the Drug and Alcohol Offices in Western Australia and the South Australia Department of Health provided information on what their governments spent on drug treatment services in 2002/03. The VDHS (2003) reported that \$58.7 million was spent in 2002-03 on "Drug treatment and rehabilitation". According to the WA Drug and Alcohol Office, \$26.6 million was spent on drug treatment services, including the Alcohol and Drug Information Service (ADIS). The SA Department of Health reported that \$15.2 million was spent on treatment in 2004/05, which was deflated using the Australia's overall Consumer Price Index figures for 2002/03 and 2004/05 (South Australian Department of Health internal estimate; ABS, 2005b).

The average per episode cost for these three states, weighted by the number of episodes recorded in AODTS, is \$1,489. Extrapolating this across the other states and territories on the basis of treatment episodes produces an estimate of the expenditure by state and territory governments in 2002-03 of \$228.7 million. An adjustment needs to be made for licit drug treatment. Nationally in 2002-03, alcohol (38%) and cannabis (22%) were the most common principal drugs of concern to clients in closed treatment episodes, followed by heroin (18%) and amphetamines (11%) (AIHW, 2004a). Alcohol is by far the most common licit drug requiring treatment; it was assumed that an illicit drug was the primary drug of concern in 60% of cases. This adjustment results in an estimate for state and territory drug treatment spending of \$137.2 million in 2002/03.

The Federal Government provides grants directly to non-government drug treatment services. It spent \$14.5 million in 2002-03 (Federal Department of Health and Ageing internal estimate). Using the same assumption of 60% of all treatment involving illicit drugs, the Federal Government spending estimate for drug treatment services is \$9.5 million (none of this funding is provided through the state and territory governments, so it is additional expenditure).

Opioid maintenance pharmacotherapy

Pharmacotherapy maintenance is funded by the Federal Government and is not included above. There are several cost items associated with pharmacotherapy: the cost of the drug itself; the cost of general practitioner (GP) services; dispensing costs; and the cost of counselling and support services. Dispensing costs are borne by the users of the pharmacotherapies, and it can be assumed that the majority of the counselling and support services are identified in the other treatment categories. That leaves the need to consider what government expenditure is associated with the cost of the drug itself and the cost of GP services.

The two main pharmacotherapies offered in Australia are methadone and buprenorphine. Current practice is for the Federal Government to purchase them and supply them free of charge to

⁶ The Queensland figures were adjusted on the basis of ATODS Queensland (2003) information on the government and non-government (or private) treatment agencies, using the assumption that average agency size for government and non-government agencies is approximately equal (AIHW, 2004a). The effect of the Tasmanian omission was expected to be minor and no adjustment was made.

pharmacies. In 2002/03, the cost to the Federal Government of supplying methadone and buprenorphine amounted to \$15.3 million (Department of Health and Ageing internal estimate).

Determining the GP costs is more difficult, as it is not separately coded in the Medical Benefits Scheme nor recorded elsewhere. How much they purchased in 2002-03 is estimated using information on the GP visits per person, the cost per visit, and the number of people in pharmacotherapy maintenance. The information used to calculate this cost is provided in Table 2.

A person on pharmacotherapy maintenance needs to visit a general practitioner for prescriptions and monitoring. National pharmacotherapy guidelines recommend three appointments in the first week, followed by weekly appointments until the treatment is regarded as stable and then appointments every six weeks. Clients progressively leave treatment after each month, with approximately 50% remaining at twelve months (Ritter, A., 2005, pers. comm., 26 April). Assuming then that half of those on maintenance are stable for the entire year and half are new (and take two months to stabilize), then clients on pharmacotherapy visit a GP an average of 14.3 times in a year.

Table 2: General Practitioner costs for pharmacotherapy maintenance (2002-03)

	GP visits	Cost per visit	Numbers (as at 30 June 2002)	Estimated cost
Methadone	14.3	\$30.20	26,489	\$11,439,540
Buprenorphine	14.3	\$30.20	5,304	\$2,290,585
TOTAL				\$13,730,125

Source: Ritter (2005, pers. comm., 26 April); Clark et al. (2003).

Using patient numbers as at June 30 2002 (some which may be permits rather than actual patient numbers) and Medical Benefits Scheme (Item 23) of \$30.20 per visit, it is estimated that the Federal Government spent \$13.7 million on pharmacotherapy-related GP visits (Clark, Gospodarevskaya, Harris & Ritter, 2003). In total, the Federal Government spending in this area in 2002-03 was estimated to be \$29.0 million.

Correctional services treatment

The Australian National Council on Drugs commissioned a report on drug policies in Australian prisons (Black, Dolan and Wodak, 2004). It includes cost information on treatment in prison for most Australian jurisdictions. Information on detoxification, pharmacotherapy and counselling services was used to develop estimates of government spending on prisons. Whenever there was not a cost figure for a state or territory, an average cost figure was developed from those states where spending was available, and then extrapolated on the basis of each jurisdiction's 2002-03 average daily prisoner population (ABS, 2004a).

Detoxification. All jurisdictions operate detoxification services for those entering prison who are drug-dependent. Agencies in the ACT, New South Wales and Western Australia reported expenditure figures to Black et al. (2004), which were \$90,145, \$5,554,000 and \$2,680,200 respectively. The

extrapolation led to an estimate that state and territory governments spent approximately \$17.0 million on prison detoxification services.

Pharmacotherapy maintenance. All states and territories operate methadone programs for inmates, and some jurisdictions also provide buprenorphine and naltrexone (Black et al., 2004). Most jurisdictions provided information on their expenditure, although New South Wales and Queensland only provided costs for methadone (no adjustment was made for other opioids). Tasmania's expenditure is imputed on the basis of a weighted average of the other jurisdictions, again using ABS data on the average daily prisoner population. It is estimated that Australian governments spent \$4.7 million on prison-based pharmacotherapy in 2002-03.

Inmate counselling services. All jurisdictions offer counselling services, although the types of services vary greatly (Black et al., 2004). For this category, Queensland and South Australia were the states for which there was not information on government expenditure. The same basis for extrapolating the available figures with weighted averages yields an Australia-wide estimate of \$5.3 million for these services in 2002-03.

Drug diversion

Another treatment category is the diversion of people from prison to treatment programs via police and court activity. It has become more prominent since 1999, when the Council of Australian Governments made a commitment to develop more diversion programs. It was agreed that the Commonwealth would provide funding for expanding early intervention treatment and rehabilitation places, that there would be shared Commonwealth and state/territory funding for assessment services, and that states' and territories' law enforcement agencies would divert offenders into treatment programs and would maintain their existing health and education effort (Australian Government Department of Health and Ageing (DOHA), 2004a).

It is assumed that state and territory commitments are already included in the main treatment category. The Federal Government made a four-year commitment of \$105 million in 1999 (DOHA, 2004a). According to the Department of Health and Ageing, \$26.5 million was spent in 2002-03.

HARM REDUCTION

Box 3 Harm reduction expenditure in 2002/03

Harm reduction was difficult to identify. It is estimated that the state and territory governments spent \$38.3 million and the Federal Government spent \$17.1 million. The main expenditures identified were related to needle and syringe programs, which received \$38.3 million in state and territory government funding and \$4.6 million in federal funding.

Harm reduction expenditures are even harder to identify than spending on treatment. Many programs with harm reduction aspects are often included in broader public health budgets, or tied in with prevention or treatment initiatives. The main dedicated harm reduction program type is the needle and syringe program. Some other identifiable programs are also included.

There is no agreed definition of harm reduction. The lack of a clear definition has meant that harm reduction is very inclusive and can readily accommodate a vast array of drug interventions. Part of the difficulty in defining harm reduction is that it refers to both a philosophical approach and specific types of programs or interventions. There does, however, appear to be some broad agreement that harm reduction refers to policies and programs that are *aimed at reducing the harms from drugs, but not drug use per se*. Using this definition, the drugs budget project included only those harm reduction interventions concerned with reducing harm not reducing drug use per se.

Thus, the types of harm reduction interventions that could be included (where budget information available) are:

- Needle syringe programs (NSP);
- Outreach;
- HIV/Hepatitis education and information;
- Non-injecting routes of administration;
- Brief interventions (aimed at harm reduction not use reduction); and
- Overdose prevention interventions.

Excluded from this section of the drug budget analysis are some programs that others would classify as harm reduction such as opioid replacement pharmacotherapies (buprenorphine, prescribed heroin), and diversion of offenders away from imprisonment and into treatment. These are covered in the treatment and law enforcement drug budgets respectively.

The only solid drug budget data available is in relation to NSP. The other harm reduction interventions are usually provided as part of the health services and hence would be picked up in the treatment estimates.

Needle and syringe programs

Needle and syringe programs (NSPs) operate in all Australian jurisdictions and are supported by the Commonwealth, state and territory and local governments. The Federal Government is also funding some research on the development and applicability of retractable syringes.

There is not regular reporting of the amount Australian governments spend on NSPs. However, Health Outcomes International, National Centre for HIV Epidemiology and Clinical Research & Drummond (2002) collected data on NSP expenditure for 1999/00 from all State and Territory health authorities via a common survey instrument. These figures have recently been updated, and currently state and territory governments spend \$33.7 million per annum, while the Federal Government contributes \$3.1 million to NSPs.

There is also the research and development funding. In 2002-03, the Federal Government also provided \$1.5 million to fund a product development and implementation strategy for the introduction of retractable needles and syringes (Federal Government, 2002). Together with the other NSP funding, it is estimated that the Federal Government spent \$4.6 million in 2002-03.

Other harm reduction policies

Other harm reduction policies are difficult to identify. In 1999, the Federal Government introduced the Hepatitis C Education and Prevention Initiative, which funded improved education, prevention and health maintenance initiatives for those currently infected and those at risk of becoming infected with hepatitis C. There was a commitment of \$3.7 million for this initiative in 2002-03 (Federal Government, 2002).

There is also expenditure on family support and crisis accommodation specifically related to illicit drug use that can be considered harm reduction expenditure. The Federal Government provides funding through FACS to state and territory governments to "support families with a young person coping with illicit drug use". This program received \$11.3 million in funding over four years; \$2.8 million is allocated to the Federal Government spending estimate for 2002-03. Together with the hepatitis C funding, Federal Government spending amounts to \$6.5 million.

There are similar programs funded by state and territory governments. Unfortunately, these cannot be separated from funding for communicable disease control unrelated to drug use. There is the potential for both public health initiatives and targeted support expenditure in 2002/03 to be larger than identified here. This possibility is addressed in the sensitivity analysis.

LAW ENFORCEMENT

Box 4 Law enforcement expenditure in 2002/03

Government spending on law enforcement activities was estimated to be \$558.9 million, with the Federal Government spending \$65.7 million and the state and territory governments spending \$493.3 million.

State and territory government spending is due to policing related to drug-defined offences (\$226.4 million) and prison expenditures that result (\$156.1 million). The third largest component is federal funding of the Australian Crime Commission, of which \$52.6 million has been attributed to illicit drug-related activities. The remaining law enforcement expenditures are relatively minor components of the category.

The law enforcement policy costs considered here are those that result from policing and enforcing laws concerned with the illicit status of drugs. Costs associated with policing illegal activities that are a consequence of the use of drugs (reactive) are not considered; they are considered later in the monograph.

State and territory police services

Each state and the Northern Territory have their own police service; the ACT Government contracts the Australian Federal Police to provide equivalent functions. Estimating what funding is spent on activities that relate to illicit drug policies requires the separation of illicit drug law enforcement activities from other activities. Police often spend their time dealing with offences in any number of areas and, even when there are specialist programs or units, the resources committed to them are not well documented. Police services do not provide explicit activity reporting, so apportioning time is done on the basis of the composition of arrests and other "outcome" measures. This is a simplification. Drug law enforcement activities may not lead to an arrest or may lead to arrests for other offences, while general policing activities not specifically directed at drug law enforcement may lead to arrests for drug offences. However, in the absence of anything better, it is the most logical measure to use.

Collins and Lapsley (2002) use information on the number of people arrested for drug offences and the average length of time that they were detained in police stations to do this. This is better than arrest information alone, as some types of arrests will be more time consuming and resource intensive than others. A similar approach is adopted here.

A National Police Custody Survey of all Australian police services was conducted in October 2002. The survey covers all occasions during October in which a person was taken into police custody and physically lodged in a police cell. Taylor and Bareja (2005) report that the most serious offence was a drug offence in 4.6% of the 17,544 of cases where the type of offence was recorded. The average number of hours in custody was 12.7 hours, which is higher than the average for all offences (11.4 hours). On that basis, illicit drug offences account for 5.2% of the total number of detainee hours in Australian police stations.

Real recurrent expenditure (expenditure less revenue from own sources and payroll tax) on police services across Australia was approximately \$4.9 billion in 2002-03 (SCRGSP, 2004). However, there are activities not related to crime prevention and law enforcement of the type reflected in police custody statistics, such as traffic safety and management. Expenditure was adjusted by 10% for this reason.⁷ Multiplying the remaining 90% of police expenditures by the 5.2% of police activity attributed to drug-related policies yields an estimate for state and territory government spending in 2002-03 of \$226.4 million.

Australian Crime Commission

The Australian Crime Commission (ACC) was established on 1 January 2003, incorporating the roles of the National Crime Authority (NCA), Australian Bureau of Criminal Intelligence and Office of Strategic Crime Assessments (the NCA was the largest of these organisations). The principal roles of the ACC are to collect, analyse and disseminate criminal information and intelligence amongst the law enforcement bodies operated by the Commonwealth, state and territory governments. Like its predecessors, the ACC focuses on serious and organised criminal activity (ACC, 2003).

Marks (1994) considered 60% of the National Crime Authority budget to be drug-related, but did not provide an explanation for using that proportion. Notwithstanding the limited information on ACC activities, there is information in the ACC's *Annual Report 2002-03* that provides a basis for apportioning its resources. The ACC reports on three outputs: "Criminal intelligence services", "Criminal intelligence operations", and "Investigations into federally relevant criminal activity" (ACC, 2003). For each output, the proportion of activities identified as illicit drug-related was multiplied by the appropriations received.⁸ It was estimated ACC drug-related expenditure constituted \$52.6 million, or 57% of its overall resources (which is not too different to the Mark's (1994) NCA estimate).

Judicial resources

The ABS produces an annual publication on court activity in Australia. The information provides a basis for determining what proportion of court activity should be attributed to drug offences, and can be used together with SCRGSP cost data to estimate this aspect of drug-related spending.⁹ The ABS (2004b) separately reported court activity information for Higher (Intermediate and Supreme) Courts and Magistrates Courts.

Higher Courts. Activity in the Higher Courts was determined using information on the number of defendants by principal offence and the median length of time the court spent on the adjudication.¹⁰ There were 14,464 adjudicated defendants in Australia's Higher Courts in 2002-03, of which 1,809 (12.5%) had an illicit drug offence as their principal offence. The median duration of illicit drug

7 Mayhew (2003), in her study into the costs of crime in Australia, handled this by reducing overall expenditure by 30%. The 30% figure did not have a strong empirical basis, but was taken with advice from the Australasian Centre for Policing Research. Given that some of the activities that would fall into this figure – such as specialist drug units and drug-related community education programs – would be drug-related, 30% seems too severe. Instead, only the 10% of resources attributed to traffic safety and management by Mayhew (2003) is deducted.

8 The figures are double the reported amounts, as the ACC only operated for six months of the 2002-03 financial year and there was insufficient information on the appropriations for the NCA, ABCI and OSCA in for second half of 2002.

9 This approach is superior to that used in Collins and Lapsley (2002), as criminal court data was not available to them Collins and Lapsley (2002) allocated costs to individual types of crime according to the proportions of police detainees (classified by their most serious offence), using data derived from the National Police Custody Survey (Carcach and McDonald, 1997).

10 The median was used, as the mean length of time was not provided.

court cases was 25.1 weeks, which was slightly longer than the median duration for all categories of 21.9 weeks (ABS, 2004b). On the basis of the proportion of overall number of "defendant weeks" due to drug offences, it was estimated that 14.3% of Australia's 2002-03 Higher Court activity was estimated to be drug-related. The SCRGSP (2004) reported on state and territory governments' expenditure on these courts. Payroll tax was excluded to improve comparability. Total expenditure in 2002-03 came to \$181.0 million. On this basis, it is estimated that state and territory governments spent \$26.0 million on Higher Court-related illicit drug activity.

Magistrates Courts. The Magistrates Court information for 2002-03 was classified as "experimental", as it was the first year the ABS had collected such data (ABS, 2004b). Information on adjudication duration was not broken down by type of offence, so only the number of defendants can be used to determine the activity within Magistrates' Courts that should be attributed to illicit drug policy.

In 2002-03, there were 26,108 defendants in Magistrates' Courts whose principal offence was an illicit drug offence. This was out of a total of 424,763 defendants, although nearly half of these had a traffic offence as their principal offence (ABS, 2004b). Mayhew (2003) removed traffic offences before allocating costs to types of crime to avoid them skewing the allocation of costs. The same is done here. On this basis, 11.5% of Magistrates' Court activity was deemed to be illicit drug-related. The SCRGSP (2004) reported that the total recurrent expenditure for Magistrates' Courts (excluding Children's Courts) was \$253.8 million. It is estimated that \$29.2 million of the money Australian governments spent on Magistrates' Courts can be attributed to illicit drug policy.

The total court expenditure that could be regarded as drug-related is \$55.2 million. All of this is funding provided by state and territory governments.

Legal expenses

Given that we are only concerned with government funding, it is possible to include legal costs by reviewing funding for prosecution services and legal aid for 2002-03. Each jurisdiction has a Director of Public Prosecutions to prosecute complex criminal matters. The Federal Government funds the Commonwealth Office of the Director of Public Prosecutions (ODPP) to prosecute offences against Commonwealth law and to recover the proceeds of crime affecting Commonwealth agencies. It has a role in state and territory law matters where a Commonwealth officer is the informant or where they are authorised to do so under the laws of that State. There would be illicit drug offences where the Federal agency has a role, so its expenditure was included. The average of the Higher and Magistrates' illicit drug-related court activity figures above, weighted by expenditure, is 12.7%. While DPP activities are likely to be concerned more with the Higher Courts, there was no way to adjust for this. State and territory government expenditure on public prosecutions came to \$138.1 million in 2002-03, so \$17.5 million was attributed to illicit drug policy (ACT DPP, 2003; NSW DPP, 2003; NT DPP, 2003; Queensland DPP, 2003; SA DPP, 2003; Tasmanian DPP, Victorian DPP, 2003; WA DPP, 2003). The Federal Government spent \$61.3 million on its ODPP in 2002-03, so \$7.8 million was attributed to illicit drug policy (Commonwealth Department of Public Prosecutions, 2003).

State and territory governments also have legal aid commissions, which receive federal and state government funding to provide support in criminal, civil and family cases. Criminal legal aid funding

was separated from the other types of funding by taking criminal funding amounts directly out of annual reports or, where this was not possible, by attributing funding on the basis of the proportion of (approved) cases that were criminal cases. On this basis, total criminal legal aid funding in 2002-03 came to \$194.0 million (Legal Aid Commission of NSW, 2003; Legal Aid Queensland, 2003; Victoria Legal Aid, 2003; Legal Services Commission of South Australia, 2003; Legal Aid Western Australia, 2003; Legal Aid Commission (ACT), 2003; Legal Aid Commission of Tasmania, 2003; Northern Territory Legal Aid Commission, 2003).

The 12.7% average for court activity was again used to estimate that \$24.6 million of legal aid government funding is drug-related. The Legal Services Commission of South Australia (2003) and the Legal Aid Commission of NSW (2003) split criminal funding into State and Commonwealth sources (the other bodies provide a division of the overall funding, but not criminal funding). Using this to estimate the split in all jurisdictions, it is estimated that the Federal Government provided \$2.9 million and state and territory governments provided \$21.7 million in legal aid funding.

The total legal expenses funded by the Federal Government were estimated to be \$20.4 million, while state and territory government funding was \$29.5 million.

Corrective services

Corrective services are the responsibility of state and territory governments. The recurrent and capital costs (net of payroll tax and own sources revenues) for all Australian prisons in 2002-03 were approximately \$1.66 billion (SCRGSP, 2004). A national prisoner census is conducted every year by the ABS. On June 30 2003, there were 23,555 prisoners in Australian prisons; 2,212 (9.4%) had an illicit drug offence as their principal offence (ABS, 2004a). It is estimated that drug-related prison costs amounted to \$156.1 million in 2002-03.

Governments also spend money on community corrections. The recurrent and capital cost (net of payroll tax and own sources revenues) for all Australian community corrections programs in 2002-03 was \$190.3 million (SCRGSP, 2004). Information on non-custodial orders (excluding monetary orders) within the statistical information on court activity was used to determine what proportion of community corrections activity is due to illicit drug offences. In the Higher Courts, in 2002-03 there were 371 defendants whose principal offence was a drug offence, who received non-custodial orders (10.7% of all defendants receiving non-custodial orders). In the Magistrate's Courts, in 2002-03 there were 4,512 defendants receiving such non-custodial orders whose principal offence was a drug offence (5.6% of the total) (ABS, 2004b). A simple average¹¹ of these is 8.2%, and leads to an estimate drug-related community corrections costs of \$15.5 million.

¹¹ A non-weighted average was used on the basis that Higher Courts, while having fewer cases, are likely to have correction orders that last much longer and are therefore more costly.

Law enforcement expenditure not elsewhere included

There are several additional items that should be included. The Australian Institute of Criminology (AIC) and the Australasian Centre for Policing Research (ACPR) conduct illicit drug-related projects. Current activities of the Criminology Research Council do not seem to involve much illicit drug research, so it is not included. A significant portion of National Drug Law Enforcement Research Fund funding went to bodies whose funding is included elsewhere, so only its secretariat funding of \$0.16 million is included in this section (ACPR, 2003).

The Australian Institute of Criminology receives \$3.9 million in core Federal Government funding and \$2.5 million in research for "related entities" (which was assumed to also be Federal Government funding) (AIC, 2003). The Australasian Centre for Policing Research (ACPR) receives \$0.4 million in federal funding and \$0.8 million in state and territory government funding (ACPR, 2003). Inspection of the AIC and ACPR annual reports suggests approximately one-third of activities may be considered "drug-related". Allocating NDLERF Secretariat funding and one third of government funding for the AIC and the ACPR to illicit drug research yields an estimate for Federal Government spending of \$2.4 million and state and territory government spending of \$0.3 million in 2002-03.

Another aspect not considered thus far is the regulation of legally produced poppy and hemp crops. These crops are only grown in Tasmania, so regulation of these activities is not a large expense. The supervision of Tasmania's poppy and hemp crops cost the Tasmanian Government \$0.6 million in 2002-03 (Tasmania Department of Justice, 2003).

INTERDICTION

Box 5 Interdiction expenditure in 2002/03

The Federal Government has sole responsibility for interdiction. It is estimated that the Federal Government spent \$181.5 million, with \$97.1 million from Australian Federal Police operations and the remaining \$84.4 million from Australian Customs Service operations.

Most of the activities listed below are interdiction activities. However, with officers operating abroad, some of the Australian Federal Police's activities may involve source country control (i.e. policies focused on production in overseas locations rather than distribution or domestic production). For this reason, interdiction and source country control are grouped together.

Australian Federal Police

The Australian Federal Police's (AFP) responsibilities are to provide police services in relation to Commonwealth laws, property and interests, which includes investigating illicit drug trafficking and organised crime. It partners with international agencies and has liaison officers in 28 countries (AFP, 2003).

The majority of its drug-related activities come from an output called "Investigation Services". In 2002-03, the AFP spent \$244.4 million on Investigation Services and had a departmental output appropriation from the Federal Government of \$231.3 million (AFP, 2003). According to McFadden and Mwesigye (2001), drug-related investigations constituted 42% of the resources used by the AFP in investigations in 2000-01. This was an internal estimate: the authors were AFP employees. This percentage was adopted, so the estimate for the amount the AFP spent on drug policy in 2002-03 was \$97.1 million.

Australian Customs Service

The Australian Customs Service (Customs) has a wide range of responsibilities. These include protecting national borders from the entry of illegal and harmful goods and the entry of unauthorised persons, ensuring the correct customs revenue is collected and maintaining quarantine requirements. Customs adopts a risk management approach to facilitate legitimate trade and movement and intercepts illicit drugs by targeting high-risk air and sea cargo, postal items and travellers (Australian Customs Service, 2003).

Customs normally pursues its border protection responsibilities simultaneously; therefore even at a conceptual level, determining what resources are used for an individual function such as interception of illicit drugs is difficult. This is because items entering Australia will commonly be inspected for a variety of possible breaches of Australian law, and Customs is responsible for detecting all prohibited import items, not just illicit drugs. As a consequence, the resources devoted to illicit drug detection are subsumed within the overall allocation of resources for management of the border and there is no simple basis for separating spending for drug detection activities.

There was direct funding for improving drug detection capabilities under the National Illicit Drug Strategy (NIDS). Under the first two phases of NIDS (announced in 1997-98 and 1998-99) the provision of \$34.5 million to Customs was announced, and under phase three (Tough on Drugs) a further \$35 million in funding was directed to Customs to enhance their ability to detect illicit drugs.

In the United States, the US Coast Guard and the former US Customs Service (now the Bureau of Customs and Border Protection, subsumed within the US Department of Homeland Security) have had to estimate the resources expended on illicit drug-related activities for the US Office of National Drug Control Policy. The drug-related percentages were formulated many years ago and there is not always a clear basis for the assignments (Murphy, Davis, Liston, Thaler & Webb, 2000; Reuter et al., 2004). However, as the majority of costs have been derived from some type of activity reporting, using US information provides the best basis for estimating the proportion of Customs funding that should be attributed to illicit drug activities.

The US Customs Service estimated that 28% of their 2003 expenditure was drug-related. The Coast Guard estimated that anti-drug activities represented approximately 10% of their total budget in 2003 (ONDCP, 2004). A weighted average of the drug-proportions for the relevant US agencies in the 2003 financial year came to 15.4%. In 2002-03, total government expenditure on the Australian Customs Service was \$547.6 million (Customs, 2003). Combining the two pieces of information, it is estimated that \$84.4 million was spent in 2002-03 on illicit drug-related activities. There is a high degree of uncertainty around this estimate, and the separation from other activities is more artificial than occurs in most other agencies.

Other interdiction and country control agencies

The Commonwealth Department of Foreign Affairs and Trade (DFAT) is involved in international aspects of drug policy, including the development of agreements on interdiction and source country control. It is often done within discussions on other issues and, after inspection of DFAT documents, the resources expended on illicit drug activities would be expected to represent a minor proportion of Australia's overall spending on illicit drug policy (DFAT, 2003).

The Commonwealth Attorney-General's Department undertook several activities related to the development of illicit drug policy. These include support for the ministerial participation in the United Nations Commission on Narcotic Drugs meetings in April 2003, secretariat support for three meetings of the National Working Group on the Prevention of the Diversion of Precursor Chemicals into Illicit Drug Manufacture, which was established in September 2002. These bring together representatives from law enforcement and health agencies, as well as pharmaceutical and chemical industries, which have initiated a national project on drink spiking under the Ministerial Council on Drug Strategy Cost Shared Funding Model project. The costs for these activities were not available.

AusAid, the Federal Government's international development agency, have in the past provided funds to other countries for source country control (AusAid, 2000). However, there did not seem to be any specific funding for this purpose in 2002-03.

PROACTIVE EXPENDITURE NOT ELSEWHERE INCLUDED

Box 6 Other proactive expenditure in 2002/03

There were three areas that did not receive adequate attention in the previous categories: policy administration, information services and research. Government spending in these areas was estimated to be \$18.4 million, with the Federal Government spending \$9.9 million and the state and territory governments spending \$8.5 million. The major expenditure category was research, which accounted for \$16.1 million of the estimate.

There are several items of government expenditure that do not fit into one of the above categories. Even though they do not add information about the mix of government spending, not including them would lead to the underestimation of overall expenditures. These are items where there was explicit and identifiable expenditure that was clearly not included elsewhere. Funding for other organizations, publications, research initiatives, services are assumed to be allocated within the broader funding categories employed by various government agencies.

Policy administration

At the national level, the Australian National Council on Drugs (ANCD) and its various expert committees provide the Federal Government with advice on alcohol, tobacco and illicit drug policy. In 2002-03, the ANCD received \$1.3 million of Federal Government funding (ANCD, 2003). Expenditure related to alcohol and tobacco activities is excluded based on the sort of project work the ANCD engaged in during 2002-03.¹² On this basis, it was estimated that 51% (\$0.7 million) of ANCD's resources were devoted to illicit drug policy in 2002-03.

At the state or territory level, policy coordination expenditure is generally included in the health (or human services) departments, and therefore already counted. The exception is the NSW Government's Office of Drug Policy, which is located in the Cabinet Office. It was assigned \$960,000 in 2002-03 (NSW Government, 2002).

Information services

Information services also cross many activity categories. Some of this activity occurs within specialist drug research organisations or from specialist drug funding sources, while more general research bodies also conduct or support illicit drug research.

The Federal Government funds the Australian Drug Information Network (ADIN), which provides access to internet-based alcohol and drug information and is administered by the Australian Drug Foundation. It has been funded at \$0.2 million per year in recent years; it is assumed that was the

¹² In the 2002-03 *Annual Report*, there were 16 items listed under "ANCD Commissioned Research and Project Work". Assuming that alcohol and drug treatment projects were focussed on alcohol and illicit drugs only, three were categorised as being specific to illicit drugs, one as specific to alcohol, seven specific to alcohol and illicit drugs, while the remaining five were judged to be relevant to alcohol, tobacco and illicit drugs (ANCD, 2003). The projects that were relevant to more than one drug category were attributed in equal proportion to each category, leading to an estimate that 51% of ANCD activity was related to illicit drugs.

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

funding level in 2002-03. Perfunctory keyword searches suggested more resources were related to illicit drugs than alcohol. On that basis, two thirds of the funding (\$148,000) was allocated to illicit drugs.

The Federal Government also funds an illicit drugs database to monitor illicit drug use and activity. In 2002-03, it received funding of \$0.5 million (Federal Government, 2002). The total funding for information services that do not fit into specific categories was \$0.6 million.

Research

Some research expenditure cannot be classified into any of the previous categories. This can be assessed either by looking at funding bodies or at the budgets of researchers and research institutions. Funding for Australia's main illicit drug research bodies is primarily used to estimate government expenditure, supplemented by information from key funding bodies.

There are three national centres funded under the National Drug Strategy. They receive core funding as well project-specific funds (NCETA, 2003; NDARC, 2003; NDRI; 2003). Another key institution is the Australian Institute of Health and Welfare, which produces the National Drug Strategy Household Survey and other illicit drug-related datasets. Two-thirds of government funding for the centres funded under the National Drug Strategy was allocated to illicit drug research (it was assumed one third was spent on research related to alcohol and other licit drugs). The Department of Health and Ageing provided information on the funding levels for the AIHW's major illicit drug projects, the National Drug Strategy Household Survey and the Alcohol and other Drug Treatment Services National Minimum Data Set. In order to determine what proportion of AIHW's core funding should be allocated to illicit drugs, a cursory inspection of AIHW publications (books and periodicals) listed in their annual report was made. Based on that, 14% of this funding was allocated to illicit drugs (AIHW, 2003a). The total funding is included in Table 3; Federal Government funding is estimated to be \$6.7 million.

Table 3: Federally-funded research institutions (2002-03)

Agency		Total	Attribution	Federal
National Drug & Alcohol Research Centre	Federal Department of Health and Ageing core funding	\$2,213,000	67%	\$1,475,333
National Drug Research Institute	Contract and infrastructure funding – Federal	\$3,135,214	67%	\$2,090,143
	Federal Department of Health and Ageing core funding	\$1,417,589	67%	\$945,059
National Centre for Education and Training on Addiction	Federal contract, infrastructure funding	\$610,701	67%	\$407,134
	Federal Department of Health and Ageing core funding	\$355,600	67%	\$237,067
Australian Institute of Health and Welfare	Contract and infrastructure funding – Federal	\$17,587	67%	\$11,725
	Federal Department of Health and Ageing core funding	\$8,105,000	14%	\$1,157,857
	National Drug Strategy Household Survey plus Social Costs	\$574,676	67%	\$383,117
				\$6,707,435

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

In addition, there is a Federal training project that crosses several categories. The Training Frontline Workers Initiative supports education and training for those working with illicit drug users and at-risk groups (including GPs, hospital staff and police officers). According to the Department of Health and Ageing, it received \$0.3 million in 2002-03.

The National Health Medical and Research Council and the Australian Research Council both fund research related to illicit drugs, and nearly all of the funding from these programs goes to researchers other than those identified above. In 1999, the National Drug Research Strategy Committee estimated how much funding the National Health and Medical Research Council (NHMRC) and Australian Research Council (ARC) provided for illicit drug research (National Drug Strategy Research Committee, 1999). NHMRC and ARC annual reports for 1996-97 to 1998-1999 were reviewed and illicit drug projects identified. The Committee estimated that the average expenditure was approximately \$1.07 million per annum.¹³ Scaling this figure to account for the significant funding increases both bodies have experienced, it is estimated that illicit drug funding for these bodies was \$1.6 million.¹⁴ Combining these three areas, it is estimated that the Federal Government spent \$8.6 million on unclassifiable research and training in 2002-03.

It is difficult to identify state and territory research funding. Some of it is identifiable in the national centres' annual reports, but that is likely to be a minority of overall funding. BearingPoint (2004) found that \$3.2 million was spent on research over three years as part of the Victorian Government Drug Initiative. The South Australian Department of Health provided \$1.4 million of research funding in 2002-03. Extrapolating these figures across Australia on the basis of population, it is estimate state and territory governments spent \$7.5 million on research and related expenses in 2002-03.

¹³ This did not include law enforcement-related research (Intergovernmental Committee on Drugs, 1999).

¹⁴ The funding for ARC in 2000 was \$228m in 1999/2000 and \$363m in 2002-03 (a 59% increase) and for NHMRC was \$205m for 1998-99 and \$301 for 2002-03 (a 47% increase) (NHMRC, 2000; NHMRC, 2004; ARC, 2000; ARC, 2003). The average of these was used (53%).

REACTIVE EXPENDITURE (DEALING WITH DRUG-RELATED CONSEQUENCES)

Box 7 Reactive expenditure in 2002/03

Reactive expenditures amounted to \$1.9 billion in government expenditure in 2002/03. These expenditures were considered in three sub-categories: health-related, crime-related and other consequences.

Of these categories, the largest component was crime-related consequences. It totalled \$1.65 billion, nearly all of which was spending by state and territory governments. Of the various sub-categories, state and territory policing accounted for just over \$1 billion of the estimate.

It was estimated that the Federal Government spent \$104.4 million on health-related consequences, while the state and territory governments spent \$45.2 million. The major cost categories were hospital costs and medical services.

Other consequences consisted of social security costs and road accident-related expenditures. Government spending in these areas amounted to \$61.9 million.

The focus to this point has been on “proactive” expenditures, related to activities aimed at preventing or reducing illicit drug use (or preventing the harms associated with illicit drug use). As Collins and Lapsley (2002) highlight, there are significant Australian government expenditures associated with dealing with the consequences of illicit drug use. There are significant health- and crime-related expenditures, as well as a range of other consequences that result in government expenditure.

Health consequences

The causal relationship between the use of a drug and a health problem can be represented best by an aetiological fraction. As Ridolfo and Stevenson (2001) explain at the beginning of their analysis of drug-related attributable fractions:

An aetiological fraction – also known as an attributable proportion or attributable risk – is a form of indirect quantification of morbidity and mortality due to a specified risk factor. In this case the risk factor is the consumption of tobacco, alcohol or an illicit drug (p. 2).

Aetiological fractions can be developed from estimates of the level of exposure to the factor among the population or the exposure among the cases of the disease. Ridolfo and Stevenson's (2001) aetiological fractions represent the third and most recent iteration of Australian fractions for drug-caused morbidity and mortality in Australia. They use AIHW data to estimate the aetiological fractions for mortality for 1998 and for hospital separations for 1997-98. The majority of conditions associated with illicit drugs have an aetiological fraction of one. In other words, illicit drug use is the only cause of the condition.

There are limitations to the use of attributable fractions. First, there are a number of conditions for which there is already evidence that drug use is a causal factor, but for which no aetiological fractions

have been developed. Such conditions include depression and anxiety. Second, the focus on principal causes means that information on other conditions is ignored.

Collins and Lapsley (2002) used the work of Ridolfo and Stevenson (2001) to calculate the health costs associated with illicit drug use. As the aetiological fractions have not changed since then, our approach is to use the Collins and Lapsley work, only adjusting for funding changes that have occurred since then.

It should be noted that allied health services or other non-medical health services provided within the community are not included. As these costs would be expected to represent only a small proportion of the overall costs – particularly those borne by government – these omissions should have little effect.

Hospital costs

The approach to estimating hospital expenditure by Australian governments in 2002-03 is to adjust the figure for 1998-99 arrived at by Collins and Lapsley (2002), who developed estimates based on condition-specific hospital costs. For each condition, they apply aetiological fractions and validated case-mix costs to the 1998-99 episodes of hospital care recorded in the *National Morbidity Database*. They calculate gross costs of \$57.0 million.

It is assumed that the hospital episodes used in the Collins and Lapsley estimate have consumed a constant proportion of hospital resources between 1998-99 and 2002-03. This is likely to be reasonably accurate given the relatively short time frame. Changes in hospital-related cost inflation, government resources and the federal-state funding mix are accounted for using the AIHW's (2004b) *Health Expenditure Australia 2002-03*, which provides detailed information on hospital spending.

Real expenditure is adjusted on the basis of the funding mix for public hospitals, while a hospital-specific implicit price deflator developed by the AIHW is used to account for price changes.¹⁵ The division between the federal and state/territory governments is based on 2002-03 figures, in case policy changes over the past few years have changed the funding mix between the federal, state and territory governments, and private sources.

Using this approach, it is estimated that Australian government spending was \$65.9 million in 2002-03. The Federal Government spent \$34.4 million and the state and territory governments spent \$31.5 million.

Medical costs

The costs of medical services are also scaled from Collins and Lapsley's (2002) analysis. They used the aetiological fractions together with the relevant Medicare item numbers and payment schedules to calculate gross costs of \$51.6 million. This estimate is scaled up to 2002-03 using AIHW (2004) real spending figures and the price index for doctors and other health professionals. The overall spending in 2002-03 was estimated to be \$80.3 million. As the Federal Government funds approximately 80% of the medical services costs, it was estimated \$63.4 million was borne by the Federal Government (the remainder is funded by non-government sources).

¹⁵ Given the conditions attributable to illicit drug use and the profiles of dependent drug users, it is likely that spending on public hospitals better reflects the hospital costs from the consequences of illicit drug use than spending on all hospitals.

Pharmaceuticals

Collins and Lapsley (2002) use the costs of pharmaceuticals prescribed under the Pharmaceutical Benefits Scheme (PBS) for the treatment of the drug-attributable conditions identified by Ridolfo and Stevenson (2001). They estimate that, in 1998-99, the Federal Government spent \$4.0 million on PBS pharmaceuticals due to the consequences of illicit drug use. This figure is scaled up to 2002-03 on the assumption that the drug-attributable PBS costs have consumed a constant proportion of the PBS resources between 1998-99 and 2002-03. The pharmaceutical costs were estimated to be \$6.6 million in 2002-03. These costs were borne by the Federal Government, as it alone funds the PBS.

Ambulance costs

State and territory governments are the main funders of ambulance services in Australia. The proportion of funding provided by government varies across the jurisdictions by between 20% and 90%, with an average of 60.4% of funding provided by Australian governments (SCRGSP, 2004).

The per episode costs of ambulances and the number of illicit drug-related ambulance episodes were used to estimate government expenditure. SCRGSP (2004) reported that state and territory government funding for ambulances totalled \$1,068 million in 2002-03, and that ambulance services attended 2.2 million incidents nationally in 2002-03. A simple division of the latter figure by the former yields an average cost of \$485 per incident, although this combines emergency and non-emergency incidents.

Combining Victorian data from two sources probably provides better financial information. The key figures are provided in Table 4. The VDHS (2003) divide outputs on Victorian ambulance services into emergency and non-emergency services. There were 250,083 metropolitan and 89,967 country ambulance emergency incidents in 2002-03.

Table 4: Victorian ambulance incidents and expenditure (2002-03)

	Metro	Country	Total	Expenditure	Rotary wing	Fixed wing	Air services costs	Adjusted costs	Per incident costs
Emergency	250,083	89,967	340,050	\$247	2,055	541	\$12.9	\$234.1	\$688.56
Non-emergency	168,317	41,601	209,918	\$31.6	0	4,348	\$6.4	\$25.2	\$119.92
Total			549,968	\$278.6			\$19.3	\$259.3	\$471.51

Source: VDHS (2003); Victorian Metropolitan Ambulance Service (2003).

Expenditure on these incidents is combined with air ambulance services. The Victorian Metropolitan Ambulance Service (2003) state that expenditure on air services in 2002-03 was \$19.3 million. This was evenly apportioned between emergency and non-emergency services, based on inspection of flight numbers and a judgment that rotary transport is more expensive than fixed wing transport. Once this adjustment is made, it was estimated that ambulance attendances at emergency incidents cost the Victorian Government \$689 per incident.¹⁶

¹⁶ It should be noted that the average for both emergency and non-emergency incidents was \$472 per incident, which is comfortably close to the \$485 per incident estimate derived from Productivity Commission data. On this basis, the \$698 per emergency incident will be used on an Australia-wide basis.

Ambulance attendances relating to illicit drugs are recorded in Victoria. Information for Victorian attendances was available from Victorian Drugs Policy and Services Branch (2004) and Victorian Drugs Policy and Services Branch (2005) for seven months of the 2002-03 (July to September; March to June). There are not substantial differences between the two periods, so these figures are extrapolated over the remaining months in 2002-03 and that is then used to develop an Australian estimate on the basis of Melbourne's and Australia's population as at June 2003. Details are provided in Table 5.

Table 5: Ambulance callouts and costs

	Definitely heroin	Likely heroin	Other illicit	Total
Victoria callouts – 7 months	519	458	506	1,483
Victoria annual callouts	890	785	867	2,542
Australia annual callouts (a)	4,968	4,384	4,843	14,195
Australian annual cost	\$ 3,467,587	\$ 3,060,029	\$ 3,380,730	\$ 9,908,346

a This is done using June 2003 population estimates for Melbourne of 3,560,226 and for Australia of 19,878,900.

Source: ABS (2003a; 2003b); Victorian Drugs Policy & Services Branch (2004; 2005)

The estimate for the total number of callouts is multiplied by the emergency case per incident cost. On that basis, it is estimated that State and Territory government spent \$9.9 million on illicit drug-related ambulance services in 2002-03. It is important to realize that this estimate is based predominantly on drug overdoses, leaving out other medical conditions that can be attributed to illicit drug use.

Coroner's courts

An estimate for coronial courts expenditure can be made. The basis for coronial investigations differs between jurisdictions, but a good measure of the total number of cases investigated in Australia is the number of deaths that are due to external causes (external causes relate to deaths from accidents, poisonings and violence).

In 2003, external causes accounted for 7,749 deaths, or 5.6% of all registered deaths (ABS, 2005c). A one-off information paper on drug-induced deaths by the ABS listed the number of cases where "drugs of abuse"¹⁷ contributed to death in 1997, 1998, 1999 and 2000. There was an average 1,081 deaths per year where "drugs of abuse" contributed (ABS, 2002). It is estimated that illicit drug-related deaths constituted 14% of coroner court workloads.

The coroners' court expenditure was \$27.1 million in 2002-03 (SCRGSP, 2004). It is estimated that state and territory governments' expenditure was \$3.8 million in 2002-03.

17 ABS (2002b) states that this "includes opioids, cocaine, cannabis, amphetamines and hallucinogens".

Summary

Table 6: Summary of health consequences expenditure (2002-03)

Component	Expenditure (\$m)		
	Federal	State/Territory	Total
Hospital costs	\$ 34.4	\$ 31.5	\$ 65.9
Medical services	\$ 63.4	\$ 0	\$ 63.4
Pharmaceuticals	\$ 6.6	\$ 0	\$ 6.6
Ambulance costs	\$ 0	\$ 9.9	\$ 9.9
Coroner's courts	\$ 0	\$ 3.8	\$ 3.8
TOTAL	\$ 104.4	\$ 45.2	\$ 149.6

Crime consequences

The Australian Institute of Criminology (AIC) has analysed two datasets to develop "attributable fractions" for non-drug defined crimes. These attributable fractions are calculated using a similar approach to that adopted by Ridolfo and Stevenson (2001) in their analysis of the relationship between illicit drugs and health outcomes.

The AIC coordinates the Drug Use Monitoring in Australia (DUMA) survey of police detainees.¹⁸ Adult men and women that have been held in custody for less than 48 hours are asked about their drug use and criminal activity. Urine analysis is used to check self-reported drug use. Makkai and MacGregor (2003) assessed drug attributable fractions for detainees based on DUMA results for 2001 and 2002. The fractions and weighted averages are contained in Table 7.

Table 7: Drug attributable fractions by types of crime for detainees (2001-02)

Type of crime	Proportion of criminal activity due to illicit drugs					Weighted attribution (a)
	All	Most	Half	Some	None	
Violent	18%	4%	3%	10%	66%	25%
Property	31%	7%	2%	11%	49%	40%
Other	20%	4%	2%	10%	64%	26.5%

a To calculate a weighted average, "most" was considered 75% and "some" was considered 25%.
 Source: Makkai and MacGregor (2003) and author's calculations.

The Drug Use Careers of Offenders (DUCO) is a series of surveys of sentenced prisoners around their drug use and criminal activity. The DUCO report for male offenders was released in 2003, while a similar study for female offenders was released in 2005.¹⁹ DUCO fractions are more appropriate than DUMA fractions for allocating prison costs. Makkai and Payne (2003) calculate drug attributable fractions for male offenders, based on a combination of (a) those attributable to

18 DUMA measures drug use among those people who have been recently apprehended by police. Local staff (not police officers) conduct interviews with detainees who have been arrested in the previous 48 hours and are being held in custody. Urine specimens are also taken when consented to (> 70% of interviewees agree to give urine specimens) and tested by an independent laboratory. DUMA is affiliated with the International Arrestee Drug Abuse Monitoring Program (I-ADAM) that ensures comparable data are being collected in a range of countries, including the United States, England, Scotland and South Africa.

19 DUCO measures drug use amongst sentenced offenders. The adult male population was sampled in 2001 and adult female inmates in 2003-2004. Juvenile detainees are currently being surveyed. The male sample comprised 2,135 adult male offenders who were incarcerated in prisons in Queensland, Western Australia, Tasmania, and the Northern Territory in mid 2001. The interviews are face-to-face, voluntary and cross-validated with correctional administrative data.

addiction and (b) those where the offender was intoxicated at the time of the offence. There were three fractions produced: offences due to illicit drugs only, offences due to alcohol only and offences due to a combination of both. Table 8 contains the fractions involving illicit drugs, and a total attribution consisting of all of the "illicit drugs only" fraction and half of the "illicit drugs and alcohol" fraction (this may understate the role of illicit drugs as the alcohol may have had a smaller influence on criminal behaviour than the illicit).

Table 8: Drug attributable fractions by types of crime for male prisoners (2001)

Causal attribution	Proportion of criminal activity due to illicit drugs (a)				Total sample
	Property	Violent	Fraud	Homicide	
Illicit drugs only	26%	6%	35%	4%	18%
Illicit drugs and alcohol	14%	15%	14%	6%	12%
Attributed to illicit drugs (b)	33%	13.5%	42%	7%	24%

a All criminal activity is for regular offenders. "Multiple offenders" and "non-regular offenders" categories were not included.

b This is the sum of the "illicit drugs only" and 50% of "illicit drugs and alcohol" percentages.

Source: Makkai and Payne (2003) and author's calculations.

Johnson (2005) produced a report on the DUCO female sample. She does not report results in exactly the same manner, but does provide estimates of the proportion of all offences that can be attributed to "illicit drugs only" (31%) and "illicit drugs and alcohol" (1%). It is assumed that the offences for females are in the same proportions as the male offenders, and so is apportioned on the basis of the differences for total offences. The results are in Table 9.

Table 9: Drug attributable fractions by types of crime for female prisoners (2003-04)

Causal attribution	Proportion of criminal activity due to illicit drugs (a)				Total sample
	Property	Violent	Fraud	Homicide	
Illicit drugs only	45%	10%	60%	7%	31%
Illicit drugs and alcohol	1%	1%	1%	1%	1%
Attributed to illicit drugs (b)	45%	11%	61%	7%	31.5%

a All criminal activity is for regular offenders. "Multiple offenders" and "non-regular offenders" categories were not included.

b This is the sum of the "illicit drugs only" and 50% of "illicit drugs and alcohol" percentages.

Source: Johnson (2005), Makkai and Payne (2003) and author's calculations.

It is important to understand that using the AIC's attributable fractions involves several assumptions. First, the surveys are assumed to be representative of the wider Australian populations of police detainees and prisoners, even though there are jurisdictional biases in the sampling. Second, it is presumed that addiction/intoxication is the primary motivating factor for specific crimes. Third, it is assumed that these factors represent a wider general pattern of causes for all offences.

State and territory police services

The process of estimating what police resources are committed to the consequences of illicit drug use is similar to that undertaken in the law enforcement direct spending section. Information from Taylor and Bareja (2005) on the 2002 Police Custody Survey is combined with Makkai and

McGregor's (2003) DUMA drug attributable fractions and government expenditure data from the SCRGSP (2004) to develop the estimate.

The offences were divided into "violent", "property", "drug" and "other" offences (offences that were classified as "not definable", "not stated" and "not applicable" were excluded from the analysis). These were used with the average number of detainee hours for each offence category to allocate police activity. Applying the DUMA fractions of Makkai and MacGregor (2003), it is estimated that 30% of all offence-related police activity can be attributed to illicit drug use (see Table 10).

Real recurrent expenditure (expenditure less revenue from own sources and payroll tax) on police services across Australia was approximately \$4.9 billion in 2002-03 (Productivity Commission, 2004). However, there are many activities not related to crime prevention and law enforcement of the type reflected in police custody statistics, such as traffic safety and management. Mayhew (2003) reduced overall expenditure by 30% (taken with advice from the Australasian Centre for Policing Research). As noted earlier, the full 30% reduction was not used because offence counts would not reflect all illicit drug-specific programs. In this section, when there is a focus on crimes that are committed, the 30% reduction does seem appropriate.

Table 10: Estimate of the drug-attributable policing costs of crime (2002-03)

Reason for custody	Number of offences	Percentage of all offences	Mean detainee hours	Percentage of police activity	DUMA-derived fractions	Drug-att. % of police activity	Drug-att. policing expenditure
Violent (a)	3334	22%	9.0	17%	25%	4%	\$ 147.6
Property (b)	3607	23%	20.3	42%	40%	17%	\$ 577.5
Other (c)	7601	50%	7.9	34%	26.5%	9%	\$ 312.1
Total (d)	15,352	95%	11.3			30%	\$ 1,037.2

a Includes "Homicide", "Assault/intent to injure", "Sexual assault" and "Dangerous acts".

b Includes "Robbery/extortion", "Break and enter", "Theft" and "Property damage".

c Includes "Deception/fraud", "Weapons", "Public order offences", "Traffic offences", "Justice offences", "Abduction", "Miscellaneous" (mean detainee hours were not reported for the "abduction" and "miscellaneous" categories).

d Also includes drug offences.

Source: Taylor and Bareja (2005), Makkai and MacGregor (2003), SCRGSP (2004) and author's calculations.

Multiplying the remaining 70% of police expenditures by the 30% of police activity attributed to the costs of illicit drug-related crimes yields an estimate for State and Territory government spending in 2002-03 of \$1037.2 million.

Judicial resources

This was estimated using the ABS statistical information on court activity in Australia, together with Productivity Commission cost data.²⁰ Again, separate information on the Higher (Intermediate and Supreme) Courts and Magistrates Courts was available. As before, activity in the Higher Courts was

²⁰ This approach is superior to that used in Collins and Lapsley (2002), as criminal court data was not available to them. Instead, Collins and Lapsley (2002) allocated costs to individual types of crime according to the proportions of police detainees (classified by their most serious offence), using data derived from the National Police Custody Survey (Carcach and McDonald, 1997).

determined using information on the number of defendants by principal offence and the median²¹ length of time the court spent on the adjudication.

There were 14,464 adjudicated defendants in Australia's Higher Courts in 2002-03. The different types of offences were classified as "violent", "property", "drug" or "other".²² Median court durations were used to calculate the weeks that defendants spent in the courts, and it was estimated that 24% of higher court activity could be attributed to illicit drug use (see Table 11). Total expenditure on the Higher Courts in 2002-03, net of payroll tax, came to \$181.0 million (SCRGSP, 2004). On this basis, it is estimated that Australian governments spent \$43.2 million on Higher Court-related illicit drug activity.

Table 11: Estimate of the drug-attributable expenditure on higher courts (2002-03)

Reason for custody	Number of offences	Median duration (wks)	Total defendant weeks	Percentage of court activity	DUMA-derived fractions	Attributable court activity	Attributable court expenditure
Violent (a)	5477	25.9	141770	45%	25%	11%	\$ 20.3 m
Property (b)	3307	15.8	52408	17%	40%	7%	\$ 12.0 m
Other (c)	3478	20.9	72591	23%	26.5%	6%	\$ 11.0 m
Total (d)	14464	21.9	316762			24%	\$ 43.2 m

a Includes "Homicide and related offences", "Acts intended to cause injury", "Sexual assault and related offences" and "Dangerous or negligent acts endangering persons".

b Includes "Unlawful entry with intent/burglary, break and enter", "Theft and related offences" and "Property damage and environmental pollution".

c Includes "Robbery, extortion and related offences", "Deception and related offences", "Weapons and explosives offences", "Public order offences", "Abduction and related offences", "Miscellaneous".

d Also includes "Drug offences", "Traffic offences" and "Offences against justice procedures, government security and government operations".
 Source: ABS (2004), Makkai and MacGregor (2003), SCRGSP (2004) and author's calculations

ABS (2004b) Magistrate Court information on numbers of defendants in 2002-03 was used to determine the activity within these courts that should be attributed to the consequences of illicit drug use. There were 424,763 defendants, although nearly half of these had a traffic offence as their principal offence; these were again excluded from the analysis. The analysis is shown in Table 12, 27% of drug-attributable court activity amounts to \$69.7 million of government expenditure in 2002-03.

²¹ The median was used, as the mean length of time was not provided.

²² "Traffic offences" were excluded because there was no duration given (there were only three offences). "Offences against justice procedures, government security and government operations" were excluded on the basis that some of these may not have gone through police stations and therefore reflected in DUMA.

Table 12: Estimate of the drug-attributable expenditure on magistrates' courts (2002-03)

Reason for custody	Number of offences	Percentage of court activity	DUMA-derived fractions	Attributable court activity	Attributable court expenditure
Violent (a)	72,953	32%	25%	8%	\$ 14.6 m
Property (b)	56,484	25%	40%	10%	\$ 18.0 m
Other (c)	80,688	36%	26.5%	9%	\$ 17.1 m
Total (d)	226,673			27%	\$ 69.7 m

a Includes "Homicide and related offences", "Acts intended to cause injury", "Sexual assault and related offences" and "Dangerous or negligent acts endangering persons".

b Includes "Unlawful entry with intent/burglary, break and enter", "Theft and related offences" and "Property damage and environmental pollution".

c Includes "Robbery, extortion and related offences", "Deception and related offences", "Weapons and explosives offences", "Public order offences", "Abduction and related offences", "Miscellaneous".

d Also includes "Drug offences", "Traffic offences" and "Offences against justice procedures, government security and government operations".
Source: ABS (2004), Makkai and MacGregor (2003), SCRGSP (2004) and author's calculations.

The total court expenditure that could be regarded as drug-related is \$112.9 million. All of this is funding provided by State and Territory governments.

Legal expenses

It is possible to use the same information from earlier in the monograph to estimate government expenditure on prosecution services and legal aid. For both activities, the average proportion of court activity that is a consequence of illicit drug use (weighted by expenditure) is used to apportion expenditure; this is 26% of criminal court activity.

Directors of Public Prosecutions

State and Territory government expenditure on public prosecutions came to \$138.1 million in 2002-03, while the Federal Government spent \$61.3 million on its Office of the Director of Public Prosecutions. Using the 26% court activity average, it is estimated that the Commonwealth Government spent \$15.9 million and the state and territory governments spent \$35.9 million on prosecutions in 2002-03.

Legal aid

Total criminal legal aid funding in 2002-03 came to \$194.0 million (Legal Aid Commission of NSW, 2003; Legal Aid Queensland, 2003; Victoria Legal Aid, 2003; Legal Services Commission of South Australia, 2003; Legal Aid Western Australia, 2003; Legal Aid Commission, (ACT) 2003; Legal Aid Commission of Tasmania, 2003; Northern Territory Legal Aid Commission, 2003). As drug-attributable court activity was estimated to be 26%, it is estimated that the Federal Government provided \$5.9 million and state and territory governments provided \$44.4 million in legal aid funding in 2002-03.

Corrective services

Corrective services are the responsibility of state and territory governments. The SCRGSP (2004) reports the cost of prisons and of community corrections (non-custodial community service programs). The DUCO fractions are used to estimate the illicit drug component in each instance.

For prisons, the recurrent and capital costs (net of payroll tax and own sources revenues) for all Australian prisons in 2002-03 were approximately \$1.66 billion (SCPGSP, 2004). Information from the National Prisoner Census conducted on June 30 2003 was used to estimate principal offence categories that matched up with the DUCO classifications. For offence categories not fitting into "homicide", "violent", "property" or "fraud" (regarded as "other"), the drug-attributable fraction for the overall DUCO sample was applied (ABS, 2004b). This was done separately for male and female prisoner populations. On this basis, it was estimated that 18% of all prisoners were detained as a consequence of illicit drug use. In 2002-03, government expenditure on prisons attributable to illicit drug use was \$298.4 million.

For community corrections programs, the recurrent and capital cost (net of payroll tax and own sources revenues) in 2002-03 was \$190.3 million (SCRGSP, 2004). The national prisoner census does not cover community corrections. Information on non-custodial orders (excluding monetary orders) within the statistical information on court activity was used to determine what proportion of community corrections activity is due to illicit drug offences. The DUMA fractions were applied to a simple average²³ of the non-custodial orders in the Higher and the Magistrates Courts and it was calculated that 27.9% of community corrections expenditure could be attributed to the consequences of illicit drug use. In 2002-03, State and Territory governments spent \$53.1 million on drug-attributable community corrections.

Crimes compensation services and victim support services

There are victim-related services funded by State and Territory governments. All states and territories have schemes to provide financial assistance or compensation to crime victims. There are also service networks for victims; some are located within the government sector and some outside it.

Mayhew (2003) assessed the expenditure on these services. It was estimated that the total amount spent on compensation schemes in 2001-02 was nearly \$180 million, although the author was not clear to what extent that covered administrative costs as well as awards made. Information on the administrative costs of running victim service units within government departments amounted to almost \$15 million (where information was unavailable, expenditure was set to the average of jurisdictions for which costs were known).

It is assumed that services for victims are from crimes that have violent crime characteristics. The DUMA fraction for the proportion of violent crimes that are attributed to illicit drug use (25%) is applied to Mayhew's estimate (unadjusted). This yields an estimate for government spending for victim services of \$48.8 million for 2002-03.

²³ A non-weighted average was used on the basis that Higher Courts, while having fewer cases, are likely to have correction orders that last much longer and are therefore more costly.

Summary

Table 13: Summary of expenditure on crime-related consequences (2002-03)

Component	Expenditure (\$m)		
	Federal	State/territory	Total
State and Territory Police	\$ 0	\$1037.2	\$1,037.2
Higher courts	\$ 0	\$43.2	\$43.2
Magistrates courts	\$ 0	\$69.7	\$69.7
Public prosecutions	\$15.9	\$35.9	\$51.8
Legal aid	\$5.9	\$44.4	\$50.3
Prison	\$ 0	\$298.4	\$298.4
Community corrections	\$ 0	\$53.1	\$53.1
Victim services	\$0.0	\$48.8	\$48.8
TOTAL	\$21.8	\$1,630.7	\$1,652.5

Other consequences

Social security costs

There is no doubt that there are some people who, as a consequence of their use of illicit drugs, are on social security benefits when instead they would be employed. However, the number depends not just on the effects of drug use, but also on prior skills and abilities and on the state of the labour market – sometimes, one person's employment simply shifts someone else out of a job, meaning there is not net change to the costs governments bear.

The Federal Department of Family and Community Services (FACS) (2000) identified a group of Newstart and unemployed Youth Allowance clients who were exempt from activity test requirements because of an identified alcohol or other drug dependency. Around 0.8% of its client group was identified as drug dependent. This suggested that the identified substance abuse costs to the Commonwealth for these two payment types alone may be around \$68.6 million (FaCS, 2000). It was not possible to disaggregate these costs between alcohol and illicit drugs. ABS data on consumer price index changes between 1998-99 and 2002-03 was used to adjust for changes over time (ABS, 2004c). Half the funding was attributed to illicit drugs (the remainder was attributed to alcohol), leading to an estimate of \$39.5 million for 2002-03.

There is also funding provided through the Supported Accommodation Assistance Program. In 1998-99, drug/alcohol/substance abuse was the main reason for seeking assistance for 6.1% of SAAP support periods (involving 6,710 people). Half the funding was attributed to illicit drugs (the remainder was attributed to alcohol), leading to a scaled estimate for Federal Government funding of \$6.0 million for 2002-03 (FACS, 2000; AIHW, 2003b). State and territory governments also contribute to SAAP; it was estimated state and territory government spent \$4.6 million on this program in 2002-03 (SCRGSP, 2004).

This estimate suffers from a lack of knowledge about the true number of welfare recipients whose labour market outcomes are affected by illicit drug use, the nature of that effect, and the dynamics of the Australian labour market. These uncertainties are addressed in the sensitivity analysis.

Road accidents

Road accidents are another area where government expenditure results from the use of illicit drugs. The Bureau of Transport Economics (2000) estimated road crash costs in Australia; this was then used by Collins and Lapsley (2002) to estimate the drug-related road accident costs in 1998-99. Bureau of Transport Economics (2000) remains the most recent comprehensive study of road accident costs, and the aetiological fractions for illicit drug use and road accidents used by Collins and Lapsley (2002) also remain the most recent. With direct study of road accident costs beyond the scope of this paper, the approach taken is to use the Collins and Lapsley (2002) government expenditure estimates.

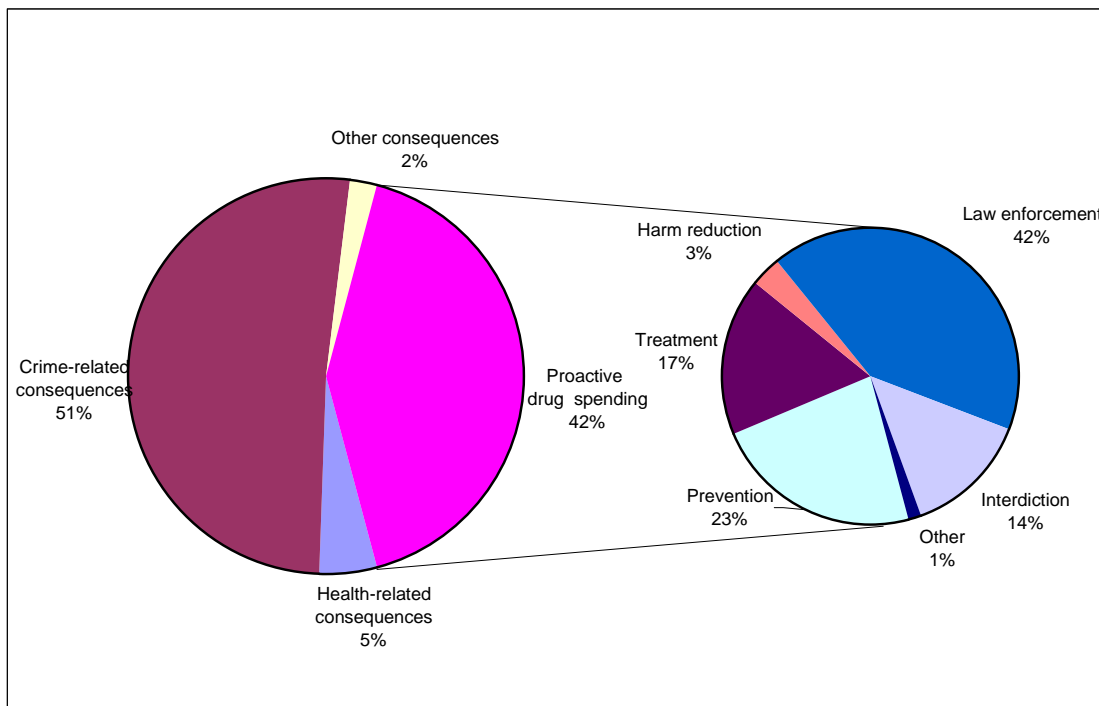
Collins and Lapsley (2002) included health-related road accident expenditures with other drug-attributable conditions, so they have already been included above. Other road accident government expenditures counted include spending on ambulances, long-term care, correctional services, coronial services, police, and fire and emergency services.²⁴ It was estimated the Federal Government spent \$3.5 million and state and territory government spent \$13.9 million in 1998-99. With these costs being spread across different areas of government, these figures were scaled to 2002-03 on the basis of general government expenses for Australian governments in 2002-03 (ABS, 1999; 2004c). It was estimated that the Federal Government spent \$4.8 million and state and territory governments spent \$17.6 million in 2002-03.

²⁴ Only correctional services are likely to be counted elsewhere. State and territory government expenditure was adjusted for this expense (\$0.6 million in 1998-99 dollars) (Collins and Lapsley, 2002).

AUSTRALIA'S DRUG BUDGET

All of the areas of Australian government spending have now been considered, and it is estimated that Australian governments spent \$3.2 billion in 2002-03, with \$1.3 billion spent on "proactive" policies and \$1.9 billion spent "reactively", dealing with the consequences of illicit drug use. The composition of this spending is shown in Figure 1. The consequences of drug use are much larger than the proactive expenditures, which are further divided in the smaller pie chart on the right (The expenditure components are provided in Appendix A).

Crime-related consequences alone form half of all expenditures. Health and other consequences are, by comparison, much smaller components. Of the proactive expenditure, law enforcement, accounting for 42% of this type of expenditure, is the most significant category. When it is considered with interdiction, more than half of what Australian governments spend proactively pertains to enforcement-related activity. Prevention (23%) and treatment (17%) each account for approximately one-fifth of these expenditures, while harm reduction (3%) and expenditure not elsewhere included (1%) are small components.

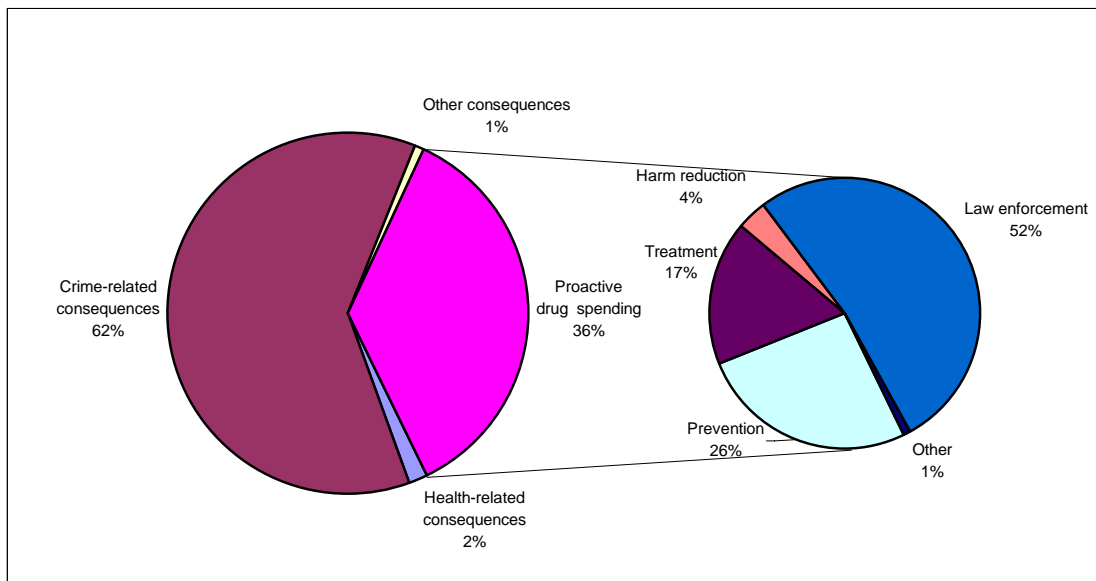


Note: Totals may not add to 100% due to rounding.

Figure 1: Summary of government expenditure (2002-03)

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

The majority of the spending occurs at the state and territory government level (approximately two-thirds). This is due primarily to their operation of the relevant aspects of the criminal justice system, and thus their disproportionate funding of the consequential costs – crime-related costs are 62% of all state and territory government costs. This also affects law enforcement funding. The composition of this funding is shown in Figure 2.

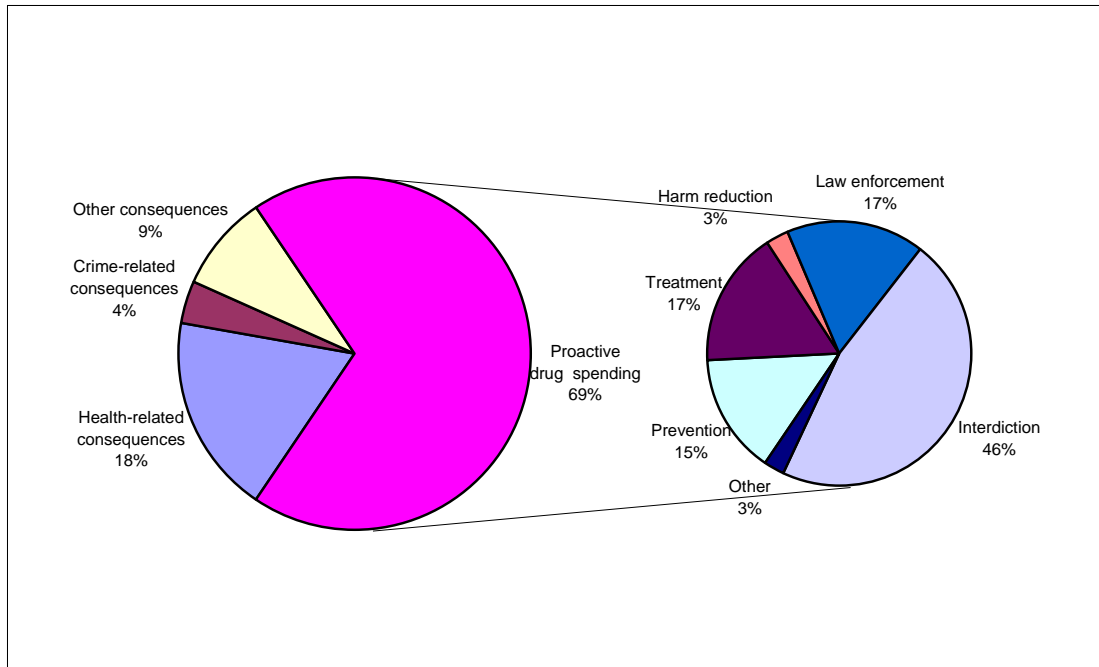


Note: Totals may not add to 100% due to rounding.

Figure 2: Summary of state and territory government expenditure (2002-03)

The composition of Federal Governments spending is provided in Figure 3. Proactive expenditures are the largest component with interdiction activities the largest single component of the spending. The Federal Government spends a slightly greater proportion on harm reduction than the state and territory governments do, while the reverse is the case for treatment expenditure.

WHAT IS AUSTRALIA'S "DRUG BUDGET"?



Note: Totals may not add to 100% due to rounding.

Figure 3: Summary of Federal Government expenditure (2002-03)

Sensitivity analysis

Sensitivity analysis is an important aspect of any estimation. For each expenditure component, “low” and “high” estimates were developed. These were calculated based on additional expenditure figures or, where there was a lack of alternative information, adjustments to the main estimate that would cover the range of likely values. The details of the sensitivity analysis calculations are provided in Table 14, which provides the high, low and main estimates along with explanatory notes on their derivation.

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

Table 14: Sensitivity analysis: Low, main and high estimates and explanatory notes

Area	Govt	Low	Main	High	Comments
Prevention					
School programs	Federal	13.2	56.3	102.9	The low estimate involved only drug-specific hours (not social competencies). The high estimate used NSW information. NSW differs from Victoria in a couple of respects: 1) drug education occurs throughout primary school; and 2) there is a 25-hour course undertaken by all Years 11 and 12 students (NSW Department of Education and Training, 2000; NSW Government, 1999). It may be that there is the same amount of drug education conducted in Victoria and NSW; they just occur at different points in schooling. Alternatively, there could be the same amount of drug education in NSW as in Victoria in Years 5 to 10, and more in early primary school and in Years 11 and 12. The second scenario is used to develop the high estimate (with the higher figures extrapolated to all states and territories except Victoria).
	State/Terr.	48.6	207.9	387.2	
	Total	61.8	264.2	490.1	
General prevention activities	Federal	1.1	1.1	1.3	The low estimate is calculated assuming the relatively low per person expenditure undertaken by the Victorian Government is the norm for state and territory governments. The high estimate is calculated assuming the relatively high per person expenditure undertaken by the South Australian Government is the norm. It is also assumed that there is a nominal percentage of expenditure of 20% missed by focusing on health department expenditure. Given that 89% of the Victorian Government Drug Initiative funding went to the Victorian Department of Human Services (Bearing Point, 2004), a figure of 20% can be considered sufficiently conservative. The 20% inflator is also applied to the Federal figures for the high estimate.
	State/Terr.	25.5	38.7	101.6	
	Total	26.6	39.8	102.8	
Treatment					
Treatment services	Federal	9.5	9.5	9.5	The low estimate calculated assuming the relatively low per episode expenditure undertaken by the Victorian Government is the norm for state and territory governments. The high estimate is calculated assuming the relatively high per episode expenditure undertaken by the South Australian Government is the norm. In both cases, the Federal figures are considered firm.
	State/Terr.	119.4	137.2	179.4	
	Total	128.9	146.7	188.9	
Opioid maintenance	Federal	24.1	29.0	31.8	The low estimate allowed for uncertainty around the number of clients and the frequency of GP visits: it was assumed 20% of the client numbers were permits and should therefore be excluded, and that there were on average 20% fewer visits annually for the reduced client numbers. The high estimate was based on an average 20% more GP visits in a year.
	State/Terr.	0	0.0	0	
	Total	24.1	29.0	31.8	
Correctional services treatment	Federal	0	0.0	0	In the low estimates, it is assumed the State/Territories for which there is no expenditure information spend at a level equal to the lowest per prisoner average of any jurisdiction. In the high estimate, it is assumed that these states spend at the highest average of any jurisdiction. The pharmacotherapy high estimate includes an additional \$180,000 to adjust for NSW and Qld only costing methadone.
	State/Terr.	24.2	17.0	33.4	
		15.5	4.8	21.0	
		4.7	5.3	5.0	
Total	24.2	27.0	33.4		
Drug diversion	Federal	26.5	26.5	26.5	The drug diversion estimate was considered accurate.
	State/Terr.	0	0.0	0	
	Total	26.5	26.5	26.5	

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

Area	Govt	Low	Main	High	Comments
Harm reduction					
Needle and syringe programs	Federal	4.6	4.6	4.6	In both estimates, a firm relationship between needle numbers and government expenditure is assumed. The low estimate is calculated assuming the reduction in needle numbers in the ACT is the norm. The high estimate is calculated assuming the increase in needle numbers in Western Australia is the norm. Federal expenditures on retractable syringes are considered firm.
	State/Terr.	33.7	33.7	33.7	
	Total	38.3	38.3	38.3	
Other harm reduction programs	Federal	6.5	6.5	16.3	The main estimate was also used as the low estimate. There was a concern that further harm reduction spending was embedded in other programs. The strong assumption that 80% was missed was adopted; the high estimate was allocated evenly between Federal and state/territory governments.
	State/Terr.	0	0	16.3	
	Total	6.5	6.5	32.5	
Law enforcement					
State and territory police services	Federal	0	0	0	In the low estimate, illicit drug-related activity (as a proportion of detainee hours) was decreased by 10% and only applied to the 70% crime-related component of expenditure identified by Mayhew (2003). The same variables were adjusted for the high estimate: illicit drug-related activity was increased by 10% and applied to all police expenditure.
	State/Terr.	160.5	226.4	280.3	
	Total	160.5	226.4	280.3	
Australian Crime Commission	Federal	26.3	52.6	83.0	The relationship between organised crime and illicit drug activity is uncertain. In the low estimate, activity is halved. In the high estimate, nearly all ACC activity (90%) is attributed to illicit drugs.
	State/Terr.	0	0	0	
	Total	26.3	52.6	83.0	
Judicial resources	Federal	0	0	0	The original estimate is based on good information. The lower activity estimate of the Magistrates Court is applied to the Higher Courts for the low estimate, while the activity estimate of the Higher Courts is applied to Magistrates Court expenditure for the high estimate.
	State/Terr.	50.1	55.2	62.3	
	Total	50.1	55.2	62.3	
Legal expenses	Federal	10.2	10.7	40.8	There is little information on the relationship between types of crime and government legal expenses, so it not possible to develop ranges based on alternative information. Given this and the level of uncertainty, the low estimate is half the main estimate and the high estimate is double the main estimate.
	State/Terr.	14.8	39.2	59.1	
	Total	25.0	49.9	99.9	
Correctional services	Federal	0	0	0	There are good data for the prison expenditure. Community corrections expenditure is subjected to sensitivity analysis. The lower community corrections estimate of the Magistrates Court is applied for the low estimate, while the activity estimate of the Higher Courts is applied for the high estimate.
	State/Terr.	166.8	171.6	176.5	
	Total	166.8	171.6	176.5	
Law enforcement not included elsewhere	Federal	2.4	2.4	3.6	The main estimate was considered to be appropriate for the low estimate. In the high estimate, the rate of attribution was increased from 33% to 50%.
	State/Terr.	0.9	0.9	1.0	
	Total	3.3	3.2	4.6	
Interdiction and source country control					
Australian Federal Police	Federal	97.1	97.1	199.8	The main estimate was considered to be appropriate for the low estimate. The high estimate was using the same proportion of activity attributed to illicit drugs (42%), but was applied to all three AFP budget outputs.
	State/Terr.	0	0	0	
	Total	97.1	97.1	199.8	
Customs	Federal	52.1	84.4	152.0	The proportion of drug-related activity for the main estimate was the average (weighted by expenditure) of three US Customs-related agencies. The low estimate applied the figure from the agency with the lowest activity estimate (Coast Guard) to the all Customs expenditure, while the high estimate applied the agency with the highest activity estimate (Customs and Border Protection).
	State/Terr.	0	0	0	
	Total	52.1	84.4	152.0	

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

Policy expenditure not elsewhere included					
Policy admin.	Federal	0.7	0.7	1.3	For Federal Government spending, the main estimate was retained as the low estimate, while in the high estimate all of the ANCD expenditure was allocated to illicit drugs. For state and territory spending, the main estimate was retained as the low estimate. For the high estimate, it was presumed that two other states may have policy coordination expenditures (of a similar size to NSW) that were omitted.
	State/Terr.	1.0	1.0	2.9	
	Total	1.6	1.7	4.2	
Information services	Federal	0.6	0.6	0.6	The estimates in this category were considered sufficiently accurate.
	State/Terr.	0	0	0	
	Total	0.6	0.6	0.6	
Research	Federal	5.0	8.6	9.9	The low estimate was calculated assuming the relatively low per person expenditure undertaken by the Victorian Government is the norm for state and territory governments. The Federal agency illicit drug attributions are adjusted to 50% (and 10% for AIHW). The high estimate is calculated assuming the relatively high per person expenditure undertaken by the South Australian Government is the norm. The Federal agency illicit drug attributions are adjusted to 100% (and 20% for AIHW).
	State/Terr.	4.3	7.5	17.9	
	Total	9.3	16.1	27.8	
Consequences					
Health-related consequences	Federal	104.4	104.4	257.9	The attributable fractions are a conservative measure, so the main estimate was also used as the low estimate. Clark et al. (2003) estimated the cost of heroin in Victoria. They estimated that a heroin user not receiving treatment had average annual health care costs of \$1,848 per annum. HCVPWG (2002) estimated there were 100,000 injecting drug users in Australia. The high estimate was calculated by multiplying \$1,848 by 100,000, and then doubling it to account for non-injecting drug users. As Clark et al. (2003) does not provide a federal/state split, the spending proportions in the main estimate were applied to this estimate.
	State/Terr.	45.2	45.2	111.7	
	Total	149.6	149.6	369.6	
Crime-related consequences	Federal	5.5	21.8	21.8	There is great deal of uncertainty about the causal relationship between drug use and criminal activity (MacCoun, Kilmer and Reuter, 2003). There is no clear basis for determining low and high sensitivity estimates, so plausible values are assigned. It is possible that there is crime that can be attributed to illicit drug use, but it is likely there is some: a quarter of the main estimate was used as the low estimate. The high estimate is unlikely to be much higher than the main estimate, in which 40% of property crime and approximately a quarter of other crimes are attributed to illicit drugs. For that reason, the main estimate is kept as the high estimate.
	State/Terr.	407.7	1630.7	1,631	
	Total	413.1	1652.5	1,653	
Social security & welfare costs	Federal	6	45.5	864.0	It is possible that no transfers (pensions, etc.) could be attributed to illicit drug use. In the low estimate, only the SAAP estimate is used. Information from Clark et al. (2003) was used to develop the high estimate. They estimated that a heroin user not receiving treatment had average social security costs of \$8,400 per annum. HCVPWG (2002) estimated there were 100,000 injecting drug users in Australia. The high estimate was calculated by multiplying \$8,400 by 100,000. In the high estimate, the SAAP attribution was quadrupled.
	State/Terr.	4.6	4.6	18.4	
	Total	10.6	50.1	882.0	
Road accident costs	Federal	3.8	4.8	5.8	There was no clear basis for conducting sensitivity analysis on road accidents. The low estimate was 20% less than the main estimate, while the high estimate was 20% more.
	State/Terr.	14.1	17.6	21.1	
	Total	17.9	22.4	26.9	

The range is large: Australian governments spent between \$1.5 billion and \$5.8 billion. This is not surprising, given the significant gaps in government information and the uncertainty surrounding what proportion of government spending on consequences should be attributed to illicit drug use. Table 15 summarises these estimates and provides the proportions of the totals that the sensitivity analysis represent.

Table 15: Summary of sensitivity analysis: Government expenditure and proportion of total

Proactive expenditure				
	Expenditure (\$m)		Proportion of total (%)	
	Main estimate	Range	Main	Range (a)
Prevention	304.0	88.4 – 593.0	9.5%	2.8% - 16.3%
Treatment	229.2	203.7 – 280.6	7.1%	6.1% - 8.2%
Harm reduction	44.8	44.8 - 70.9	1.4%	1.4% - 2.2%
Law enforcement	558.9	432.0 - 706.6	17.4%	13.4% - 20.2%
Interdiction	181.5	149.2 - 351.8	5.7%	4.7% - 10.4%
Other	18.4	11.6 - 32.6	0.6%	0.4% -1.0%
Reactive expenditure				
	Expenditure (\$m)		Proportion of total (%)	
	Main estimate	Range	Main	Range (a)
Health-related				
Consequences	149.6	149.6 – 369.6	4.7%	4.7% - 10.8%
Crime-related				
Consequences	1,652.5	418.6 – 1,674.3	51.5%	21.3% - 52.0%
Other consequences	72.5	22.2 – 891.7	2.3%	0.7% - 22.1%
TOTAL	3,211.4	1520.1 – 4971.1	100%	

Note: The "low" percentage is calculated by dividing the low estimate for each category by that amount plus the sum of the main estimates for the other categories. The "high" estimate also uses the main estimates of the other categories in the percentage calculation.

The largest ranges are for the consequential expenditures. The social security costs in the main estimate are a small part of the overall expenditures, but it is possible that they comprise a much larger component. If many frequent illicit drug users would be employed if they weren't using drugs – which depends on the number of drug users, their employability without drugs and the state of the Australian labour market – then the Federal Government is committing large amounts of money to the consequences of illicit drug use through the social security system. There is also a deal of uncertainty around the expenditures associated with criminal activity and health outcomes.

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

Results of the sensitivity analyses at the federal and state/territory levels are provided in Table 16. Apart from the uncertainty surrounding social security costs, the largest uncertainties are within the state and territory government estimates. That is to be expected, given their responsibility for health as well as law and order.

Table 16: Expenditure by government level: main estimate and sensitivity analysis (2002-03)

Proactive expenditure									
	Federal Government Expenditure (\$m)				State and territory governments Expenditure (\$m)				
	Main	Range	Proportion (%)		Main	Range	Proportion (%)		
			Main	Range			Main	Range	
Prevention	57.4	14.3 - 104.2	10.1%	3% - 17%	246.6	74.1 - 488.8	9.3%	3% - 17%	
Treatment	65.0	60.1 - 67.8	11.5%	11% - 12%	164.3	143.6 - 212.8	6.2%	5% - 8%	
Harm reduction	11.1	11.1 - 20.9	2%	2% - 4%	33.7	33.7 - 50.0	1.3%	1% - 2%	
Law enforcement	65.7	38.9 - 127.4	11.6%	7% - 20%	493.3	393.1 - 579.2	18.7%	15% - 21%	
Interdiction	181.5	149.2 - 351.8	32%	28% - 48%	0	0 - 0	0%	0% - 0%	
Other	9.9	6.3 - 11.8	1.7%	1% - 2%	8.5	5.3 - 20.8	0.3%	0% - 1%	
Reactive expenditure									
	Federal Government Expenditure (\$m)				State and territory governments Expenditure (\$m)				
	Main	Range	Proportion (%)		Main	Range	Proportion (%)		
			Main	Range			Main	Main	
Health-related	104.4	104.4 - 257.9	18.4%	18% - 36%	45.2	45.2 - 111.7	1.7%	1% - 4%	
Crime-related	21.8	5.5 - 21.8	3.8%	1% - 4%	1630.7	413.1 - 1652.5	61.7%	29% - 62%	
Other consequences	50.3	9.8 - 864.0	8.9%	2% - 63%	22.2	24.0 - 60.3	0.8%	1% - 2%	
TOTAL	551.9	399.6 - 1828	100%		2644.4	1132.1 - 3176.1	100%		

Note: The "low" percentage is calculated by dividing the low estimate for each category by that amount plus the sum of the main estimates for the other categories. The "high" estimate also uses the main estimates of the other categories in the percentage calculation.

Despite these large ranges, the differences between the sizes of many of the expenditure categories is sufficient for some firm statements about the mix of spending to be made. Explicit harm reduction activities constitute a small proportion of overall spending, while law enforcement-related expenditures are consistently a significant component.

The implications of these results are discussed in more detail in the next section.

DISCUSSION

There are several benefits from conducting this sort of exercise. First, it is possible to get a picture of the size and composition of what governments spend as a result of illicit drugs in Australia. There are several outcomes that may not be apparent without the explicit accounting that this sort of exercise requires. Second, there are several issues that can be more usefully considered in the light of the magnitude and mix of current drug-related expenditure.

One insight is that Australian governments do allocate a significant amount of funds to addressing "drug problems". While \$1.3 billion, give or take half a billion dollars, represents a small proportion of Australian governments spending,²⁵ overall spending includes many commitments – such as welfare payments, emergency services and education – over which there is limited discretion.

Another insight is that the amount Australian governments spend on the consequences of illicit drug use is greater still. The \$1.9 billion spent on consequential costs represents approximately 60% of all government drug-related expenditure.²⁶ There have been few policies subjected to economic evaluations, apart from needle and syringe programs (Health Outcomes International et al., 2002) and treatment programs (e.g. Harris, Gospodarevskaya & Ritter 2005). The UK Home Office (2002) states that one of the key principles underpinning their drug strategy is the need to change spending priorities from reactive expenditure to proactive expenditure. While there is always likely to be some "reactive" expenditure, there is clearly scope for more policy evaluation to determine whether new initiatives would lead to net savings.

It is highly likely that law enforcement activities²⁷ represent the majority of drug-related expenditure at the federal as well as the state/territory level. This does not necessarily imply the policy mix is wrong; it mirrors the experience of other countries where comprehensive drug budgets have been developed. Prior to the 2002 budget revisions, the United States' enforcement component ("supply reduction") represented 67% of all federal drug-related expenditure (Walsh, 2004).²⁸ Reuter et al. (2004) estimated that governments in the Netherlands and Sweden committed 76% of their drug-related expenditure to enforcement activities.²⁹

While methodological differences between studies limit international comparisons, this similarity between nations is striking given the apparent differences between Australia, the Netherlands, Sweden and the United States. Instead of requiring apparent policy differences to be rethought, the similarities may simply emphasise how costly enforcement is. As an illustration, in the Australian

25 Given general government expenses (for all levels of government) was \$262 billion in 2002-03, illicit drug policy represents 0.5% of all expenses (ABS, 2004, Cat 5512.0).

26 As an aside, the magnitude of government expenditure on illicit drug related items does support Reuter's (1999) contention that social cost studies have the potential to lead to significant understatement. Collins and Lapsley (2002) estimated that illicit drug use cost Australian governments \$1.4 billion in 1998-99. This was vastly less than the \$3.2 billion here for 2002-03, which is still likely to understate some of the consequences of illicit drug use.

27 "Law enforcement" sometimes refers only to police activity. In this context, it is broader and includes judicial and correctional services, and also border control activities.

28 The United States Drug Budget underwent significant changes in 2002. Until 2002, the effort was to be as comprehensive as possible, with little concern about the conceptual distinctions between drug-targeted and drug-related expenditures. After that, the ONDCP stated that the focus was on expenditure aimed at reducing drug use. There are some quirks in the judgments made; for example, the new Budget excludes all prison expenditure. While recognizing the justification for the new budget figures for a policy agency, the old ones appear to do better at capturing the costs of drug control (Reuter, 2004).

29 Nor can one say that Australian governments in fact spend a relatively low proportion on enforcement. Methodological differences – particularly for estimating school-based drug education – are sufficiently large to be unsure about this.

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

estimate approximately 2,200 prisoners whose principal offence was an illicit drug offence cost governments \$156.1 million, while more than 30,000 pharmacotherapy maintenance clients cost \$39.3 million. Any significant enforcement activity is likely to be a major component of the policy expenditure mix.

This exercise also reveals that, in terms of government expenditure, harm reduction is an explicit activity in only a small way. NSPs and other programs that focus solely on harm reduction and not use reduction are not particularly costly; what is lost in this analysis are the harm reduction elements of broader programs.

It is interesting to compare research activity to expenditure mix. The Intergovernmental Committee on Drugs (1999) classified Australian alcohol and drug research literature into a number of categories. While it is difficult to align some of the categories with the above policy categories – the largest category, “extent/harms/patterns” (42%), is hard to assign – there does seem to be a mismatch between research intensity and funding allocations. “Supply/trade/markets” and “criminal justice”, the enforcement-related categories, accounted for 4.4% of all publications classified, while “treatment” represented 9.1% and the treatment-related “service systems” category represented 11.4% of all publications. There are significant differences between what topics are being researched and where government money is being spent. This again reinforces the need to evaluate policies that use the most resources, and also suggests more generally that more research related to drug law enforcement would be desirable.

We can also say something about how governments’ budget allocation decisions reflect the preferences of the general public. In the National Drug Strategy Household Survey, respondents are asked how they would distribute \$100 to be spent on education, law enforcement and treatment for each of a selected list of drugs (AIHW, 2002). The 2004 results, based on approximately 30,000 respondents, are presented in Table 17 and compared to the main expenditure estimate (by considering prevention as “education”, interdiction in “law enforcement” and ignoring harm reduction and non-classified expenditures).

Table 17: Distribution of a hypothetical and actual \$100 for reducing the use of selected drugs (2001)

	Preferred distribution - hypothetical			Main expenditure estimate - actual
	Marijuana/ cannabis	Amphetamines	Heroin/ cocaine	
Education	41.70	34.10	31.40	22.97
Treatment	26.70	24.50	24.70	19.91
Law enforcement	31.50	41.40	43.90	57.12

Source: AIHW (2005) and author's calculations.

Assuming the respondents were informed, understood the categories and considered their answers carefully, Australian governments spend more on law enforcement than is desired. This comes at the expense of both education and treatment in similar proportions, although the relative spend between

these categories does seem close to the stated preferences of the general public. Government budget allocations are closest to public preferences for how heroin and cocaine should be addressed – in this exercise, no similar division of spending has been made.

This paper also sheds light on the relationship between the levels of government. Approximately 70% of the policy expenditure and 90% of spending on the consequences of the illicit drug use occurs at the state and territory government level. As there are some activities that can only be funded at the federal or the state/territory level, coordination problems and cost shifting is possible. On a different aspect of illicit drug policy, Boylan (2005) recently highlighted how federal actions can affect state-level outcomes. It is certainly the case that any under-funding of drug policy by the federal government would lead to greater expenditure at the state/territory level.

Finally, the processes involved in this ambitious exercise have highlighted some useful information sources and some serious gaps in our understanding. Our understanding of the time spent by various government agencies on activities related to illicit drugs would be helpful, while further understanding of the various causal relationships would also be of enormous benefit.

In this paper, a significant step has been made in understanding Australia's approach to illicit drug policy in quantifiable economic terms. While nothing can be said about the appropriateness of the current mix of policy, gaining an understanding of the size and make-up of spending should allow Australian policy makers to develop a more systematic approach to drug policy research and evaluation in the future.

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APPENDIX A: SUMMARY OF GOVERNMENT SPENDING ESTIMATES

	Federal	State/ Territory	Total
PREVENTION			
School-based drug education	56.3	207.9	264.2
General prevention activities	0	38.6	38.6
Community development campaigns n.e.c.	1.1	0.1	1.2
TOTAL	57.4	246.6	304.0
HARM REDUCTION OVERALL			
Needle and syringe programs	4.6	33.7	38.3
Hepatitis C education and family support	6.5	0	6.5
TOTAL	11.1	33.7	44.8
TREATMENT			
Drug treatment services	9.5	137.2	146.7
Opioid substitution	29.0	0	29.0
Detoxification	0	17.0	17.0
Prison pharmacotherapy programs	0	4.7	4.7
Inmate counselling	0	5.3	5.3
Drug diversion	26.5	0	26.5
TOTAL	65.0	164.3	229.2
LAW ENFORCEMENT			
State and Territory Police	0	226.4	226.4
Australian Crime Commission	52.6	0	52.6
Higher courts	0	26.0	26.0
Magistrates courts	0	29.2	29.2
Public prosecutions	7.8	17.5	25.3
Legal aid	2.9	21.7	24.6
Prison	0	156.1	156.1
Community corrections	0	15.5	15.5
Research	2.4	0.3	2.6
Regulation of crops	0	0.6	0.6
TOTAL	65.7	493.3	558.9
INTERDICTION			
Australian Federal Police	97.1	0	97.1
Australian Customs Service	84.4	0	84.4
TOTAL	181.5	0	181.5
OTHER PROACTIVE			
Policy administration	0.7	1.0	1.7
Information services	0.6	0	0.6
Research funding	8.6	7.5	16.1
TOTAL	9.9	8.5	18.4
HEALTH CONSEQUENCES			
Hospital Costs	34.4	31.5	65.9
Medical Costs	63.4	0	63.4
Pharmaceuticals	6.6	0	6.6
Ambulance Costs	0	9.9	9.9
Coroners Costs	0	3.8	3.8
TOTAL	104.4	45.2	149.6
CRIME-RELATED CONSEQUENCES			
Police Services	0	1,037.2	1,037.2
Judicial resources	0	112.9	112.9
Directors of Public Prosecution	15.9	35.9	51.8
Legal Aid	5.9	44.4	50.3
Corrective Services	0	351.5	351.5
Crime compensation services and victim support services	0	48.8	48.8

WHAT IS AUSTRALIA'S "DRUG BUDGET"?

	Federal	State/ Territory	Total
TOTAL	21.8	1,630.7	1,652.5
OTHER CONSEQUENCES			
Social Security Costs and SAAP	45.5	4.6	50.1
Road Accidents	4.8	17.6	22.4
TOTAL	50.3	22.2	72.5