SOCIAL DETERMINANTS OF DRUG USE

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Technical Report Number 228

ISBN: 0 7334 2244 6

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ACKNOWLEDGEMENTS

This project was funded by the Australian Government Department of Health and Ageing (AGDHA).

The authors would like to thank the following people for their comments, advice, sharing of information or other assistance throughout the production of this report. This report would not have been possible without the generosity of these people:

Tom Carroll
Eva Congreve
Peter d'Abbs
Michael Gascoigne
Tim Stockwell and team at National Drug Research Institute
Wayne Hall
Margaret Hamilton
Peter Homel
Ross Homel
John Lynch
Karen Malone and team at Globalism Institute
Richard Mattick
David Moore
Jude Munro
Jake Najman and team at Queensland Alcohol and Drug Research and Education Centre
Ann Roche
Robin Room
Ann Sanson and team at Institute of Family Studies
Marian Shanahan
Sven Silburn
John Toumbourou and team at the Centre for Adolescent Health
Julia Tressider
Steve Vaughan
Graham Vimpani
Tony Vinson
Don Weatherburn
Steve Zubrick

Many thanks to Julie Stokes for editing services

EXECUTIVE SUMMARY

Introduction

- Despite significant expenditure on drug prevention, problematic drug use has increased and new drug-related problems have emerged. For example, while 3 per cent of people born between 1940 and 1994 had used cannabis by age 21, 59 per cent of people born between 1975 and1979 had done so. Further, in the past decade, the use of ecstasy and related drugs increased from a rare phenomenon to a situation where, in 2001, 20 per cent of 20–24 year olds reported that they had ever used ecstasy.
- Research indicates negative trends in other psychosocial problems. For example, suicide rates among 15–24 year olds have increased from 6 per 100,000 in 1921–25 to 16 per 100,000 in 1996–98. This common trend, it is argued, reflects some shared aetiology between drug-use behaviours, and other negative outcomes such as delinquency/crime and mental health problems.
- A variety of factors contribute to drug use and other problem outcomes, both individual and environmental. While drug prevention and treatment have traditionally focused on changing individual behaviours, such efforts can have only limited impact when changes are not made to the environment, that is, to the social determinants of drug use. These include the social and cultural environment, the economic environment and the physical environment.
- Western society is undergoing rapid change (for example, more parents working, longer working hours, changes to family structure, extension of the period of adolescence) and there are concerns that societal institutions (for example, childcare and education) are not coping sufficiently with this change. This situation may be contributing to the negative trends in drug use and other psychosocial problems.
- This report focuses on social determinants of drug use, and structural interventions to address those social determinants. It draws upon recent research on the social epidemiology of health. The report incorporates a developmental perspective, noting that the influence of the environment is important and cumulative across the life course of individuals.
- Given the broad scope of this report, the authors adopted a methodological approach of integrating, as much as possible, the findings of existing reviews of the literature in each area addressed. As such, the report cannot examine any issue in great depth. Rather, the aim is to provide the reader with a broad understanding of the complex developmental and social issues associated with the development and exacerbation of drug-use problems.

Human development and drug use

- Human development is a complex interplay of individual and environmental factors across the life course. Key concepts in understanding healthy human development include:
    - Stress — prolonged stress is detrimental to health and well-being
    - Essential to positive/healthy human development and the prevention of a range of problems are:
        - resilience — resilient people can have positive outcomes even in adverse conditions
        - self-regulation
        - human relationships and attachment.
    - Parents usually play a crucial role in development.
    - Each stage of life has a set of developmental tasks, the achievement of which is essential for healthy development. The transition from one life stage to the next involves a period of adjustment during which support is needed and the individual is more receptive to assistance than at other times.

- Most attention in the research literature has focused on the early years and adolescence, however researchers note that the middle years of childhood, the transition to adulthood and adulthood itself involve important developmental tasks and issues.
- An increased awareness and understanding of how the early years of development affect learning, mental health, behaviour and physical health throughout life are evident in the literature. The early years constitute a period during which there is substantial brain development — neurons are connected, pruned or sculpted. Features of the early years of development include:
    - Critical or sensitive periods for brain development. The development of children who do not receive the nutrition and stimulation necessary for development in the early months and years will be significantly impeded.
    - During this time significant and repeated stressful events (for example, child abuse) can affect neural development and the development of other body systems (for example, the immune system). This system response to stress is called the 'allostatic load' and can impact upon the stress response for life. Hence, the association between child abuse and later substance abuse.
    - Investments in early child development have been found to have cost-effective outcomes across multiple domains for the individual and broader society.

- While the early years of life have attracted increased attention in the past decade, adolescence and the transition to adulthood remain important periods of development. These developmental periods have changed in the last century. For example, the period of adolescence has been extended (resulting in a longer period of dependence upon parents and few responsibilities); adolescents spend less time interacting with adults in the normal course of life and more time exclusively with

peers; there is greater societal emphasis on tertiary education for career prospects and less certainty about the future.

- Drug-use behaviours are the result of interaction between the developmental processes described above and environmental factors. Different risk factors are salient at different times of life and earlier factors influence the development of further risk of drug abuse. Examples of risk factors for the development of drug abuse across the life course include:

    - conception: genetic predisposition
    - gestation: drug use in pregnancy
    - neonatal and infancy: difficult temperament
    - preschool: early behavioural and emotional disturbances (for example, oppositional defiant disorder, depression)
    - primary school: inability to self-regulate emotions and behaviour
    - high school: exposure to drugs and drug-using social contexts.

Factors that exacerbate these risk factors include cognitive limitations, poor parenting and low family socio-economic status.

- Human development is shaped by a number of institutions throughout life. Perhaps the most important of these is the family. Others include the childcare system, the education system and the legal system. The multiple ways in which these systems can affect health and drug-use behaviours is discussed.
- The chapter concludes with recommendations for:

    - systems/infrastructure to support healthy child, youth and adult development throughout the life course (for example, support for families in raising children, structures for youth development, and support for adolescents and adults in achieving success in education and employment)
    - 'safety nets' or early interventions for those who are beginning a potentially negative pathway (for example, the provision of options for youth who are not doing well at school)
    - assistance during challenging transitions, particularly for those who are not doing well (for example, assistance for people coming out of prison and for drug-dependent pregnant women).

Social and cultural environment

This chapter is concerned with cultural and social–structural factors that contribute to drug use.

- 'Culture' refers to norms, beliefs, values and meanings.
- The term 'social structure' can be used in a variety of ways, each of which is useful. These include:

    - the roles, relationships and domination associated with categories of, for example, gender, race and class
    - the social, economic and cultural characteristics of a society
    - societal systems and institutions (for example, education system, welfare policies, laws).

The first two conceptualisations are discussed in this chapter. Societal systems and institutions are discussed throughout the report. Culture and social structures are inextricably linked, but discussed separately for explanatory purposes.

Culture

In this chapter, culture is divided into drug-specific and non-drug-specific cultural influences on drug use. Drug-specific cultural influences are norms regarding acceptable patterns of drug use while non-specific cultural influences refer to those aspects of western culture that influence general attitudes and norms. Examples include individualism, neo-liberalism and secularism. The broader culture can influence:

- individual risk factors for drug use such as social alienation and social support
- environmental risk factors such as social cohesion and social exclusion
- societal systems and institutions.

For example, social values around individualism can (a) contribute to feelings of alienation and connectedness; (b) reduce social cohesion; and (c) influence the policies that support (or fail to support) families and children (for example, 'family-friendly' workplace policies, provision of childcare, welfare policies). Another example is the impact of secularism on Western culture, which results in a lack of shared meaning and values. In this chapter the authors contend that, while there are some positive aspects to Western culture, other features have been detrimental to youth development and contributed negative outcomes, such as youth suicide and drug use.

Drug-specific cultural influences vary with factors such as drug type, setting, group characteristics and historical time. For example, smoking has been fashionable and acceptable in earlier times, but is now neither fashionable nor acceptable among the general population. Drinking to high levels of intoxication can be acceptable and even encouraged among some subgroups in some settings (for example, the pub on a Friday night), but unacceptable among others. Drug-specific norms and values are shaped by a range of factors, such as the mass media (including entertainment, news and marketing), trends in youth culture (for example, 'heroin chic') and laws and their enforcement.

Attempting to change cultural trends, or to address the negative impacts of cultural trends, can be difficult. Ongoing monitoring and research into the negative impacts of cultural factors, and addressing these negative impacts, are warranted. Possible action includes governments and the media placing greater emphasis on population health than on economic growth, and community leaders promoting cultural values that contribute to population health, such as caring for those in need.

Social categories

Social categories such as class, gender and race can influence access to resources, exposure to marginalisation, roles and expectations. As a result, health outcomes, drug use and drug outcomes are influenced by social category. For example, people from low socio-economic classes have poorer health and are more likely to use tobacco, to drink alcohol in a high-risk manner and to use illicit drugs.

Drug-dependent people are particularly likely to be unemployed and to experience marginalisation, both of which can exacerbate their problems and prevent seeking or benefiting from treatment. This report recommends that social policies:

- address existing social-group inequalities in drug problems
- address marginalisation and social exclusion in society as a preventive measure
- address marginalisation and social exclusion among drug-dependent people to facilitate achieving and maintaining reductions in drug use and other problems
- ensure that policies do not exacerbate existing disadvantages experienced by social groups by considering how they impact upon the psychosocial and material conditions faced by disadvantaged people.

Social environment at the community level

The last decade has generated substantial interest in the concepts of social capital, social cohesion, collective efficacy and social exclusion. While these concepts suffer from poor conceptualisation and measurement, they appear to be highly correlated and generally refer to a notion of community resilience. While evidence is mixed about the importance of such concepts for health and social outcomes, such as drug use and crime, research on risk factors for drug abuse suggests that the availability of social support/networks, social inclusion, social activity, shared (pro-social) norms, feelings of belonging could be protective against drug-abuse problems in the community. The report recommends that:

- evidence-based community-building programs be a priority for disadvantaged communities
- policies and programs that negatively affect community resilience be changed.

Social environment at the global level

Globalisation refers to the process by which activities, ideas and cultures influence one another on a global scale. In the last two decades the rate and extent of globalisation have increased, largely as the result of advances in technology. The impacts of globalisation on societies can be both positive and negative, and vary between countries. For example, globalisation can contribute to employment in Third World nations, while at the same time increasing pressure on workers in wealthier nations, as they try to compete with cheaper labour markets. There has been recent concern regarding the impact of globalisation on drug markets, drug and social policies and drug use. For example, globalisation is accused of contributing to identity confusion and a sense of powerlessness among young people, which can result in problems such as depression and drug abuse. Other global influences appear to have positive effects on development; for example, the efforts of organisations such as the United Nations in promoting the rights of children.

Socio-economic environment

This chapter reviews recent research examining the impact of individual, family and community socio-economic environments on health and drug-use outcomes. The literature indicates that:

1. Low socio-economic status and income inequality are often associated with poor health and well-being. Models describing these relationships are complex, but the impact of the socio-economic environment on health appears to be partly mediated by the impact of socio-economic factors on drug and alcohol use.
2. Low socio-economic status is not evenly distributed throughout the community. It tends to be geographically concentrated and experienced disproportionately by particular demographic groups, such as Aboriginal and Torres Strait Islander peoples and sole parents. Those born into low socio-economic status

environments are unlikely to increase their level of socio-economic status. Accordingly, problems associated with poor socio-economic environments are likely to be concentrated among these disadvantaged groups/communities and to be transmitted between generations.

3. Evidence suggests that the relationship between low socio-economic status and drug use is bi-directional, where low socio-economic status can cause increased drug use and, to a lesser extent, drug use can serve to lower one's socio-economic status. Hence, a self-perpetuating cycle can exist between low socio-economic status and drug use, which is likely to embed itself within disadvantaged sectors of the community.
4. Low socio-economic status can affect drug use and related harms in a number of ways. For instance, low socio-economic status can create chronic stress resulting in negative impacts upon an individual's mental health and immune responses; as well as reduced access to resources such as mental health services, education, recreation and social support. Children raised in low socio-economic status families (particularly working poor who work long hours for little pay) experience less supervision and care, which can be conducive to the development of drug-use problems. Low socio-economic status communities are often characterised by high unemployment, drug use and drug availability, crime etc, which provide a cultural environment that is conducive to problem drug use.
5. The research literature contains a number of implications for ways to address the impact of the socio-economic environment on drug use and drug outcomes:

    a. In order to alleviate the detrimental effects of poverty and disadvantage, interventions need to be targeted at different points along the causal chain.
    b. Poverty and disadvantage should be addressed via employment programs, taxation policies and education policies.
    c. In addition to universal programs, targeted programs are needed for disadvantaged groups and communities to address existing inequities in drug problems and to reduce intergenerational transmission of drug problems.
    d. Poverty and disadvantage need to be addressed at the individual, family, community and national level.

Physical environment

Aspects of the physical environment have been demonstrated to affect physical and mental health, and the social environment. Impacts described in the research literature are summarised below.

Aspect of the physical environment	**Impacts**
Housing	
Housing quality	Self-identity Despondency Depression
Overcrowding	Depression Noise, which impacts: • children's academic attainment • stress

Aspect of the physical environment	Impacts
Cost Availability	Exacerbates poverty Homelessness Insecurity Mobility, which impacts children's academic achievement and socialisation
Spatial patterns	
Concentration of public housing	Concentration of disadvantage Crime rates Drug markets Identity and self-esteem Social norms regarding education, employment, crime, drug use
Suburban sprawl	Social networks Civic networks
Geographic isolation — rural and remote communities	Access to resources and opportunities, which impact: • boredom • employment
Community physical disorder	Community perceived as unsafe and unappealing → People stay indoors → Reduced social interactions and networks
Inadequate public transport	
Increased car dependency and traffic flow	Areas perceived as less safe and friendly → Less walking → Less public interaction Increased stress Constraints on child development: • less exploration of the environment • reduced social contacts Effect on drink-driving and drug-driving
Exacerbation of impacts of low socio-economic status	Reduced access to: • job interviews and employment opportunities • social networks → loneliness, depression • recreation → boredom, motivation
Public spaces	
Lack of public spaces in which young people can socialise in the presence of adults	Increased exposure to drug markets and antisocial youth Decreased informal social controls from adults and adult role models

The impacts of the physical environment listed above may then act as risk factors for drug abuse. While there is mixed evidence concerning the impact of housing quality on lung cancer rates, little specific research has focused on the impacts of the physical environment on drug-use behaviours and outcomes. However, research into aspects of

particular environments (settings) and their effect on particular drug-use behaviours or outcomes has demonstrated that:

- Physical features of licensed premises can affect alcohol-related violence.
- The provision of public transport can reduce alcohol-related violence and drink-driving.
- Physical features of a local environment can have an influence on unsafe injecting practices.
- Accommodation options can affect access to services and the well-being of heroin users.
- Policies and laws that allow smoking in enclosed spaces, particularly without proper ventilation, can contribute to smoking-related diseases due to passive smoking.

In sum, resources such as housing, urban planning and transport are likely to affect the environment in a manner that promotes or prevents drug-use problems.

Universal or targeted programs

Drug prevention interventions can be 'universal' or 'population' approaches (targeting the whole population), targeted approaches (targeting a high-risk group) or indicated approaches (targeting those who are already experiencing a problem). An argument for universal approaches suggests that there are generally more low-risk individuals in the population than high-risk individuals and a large number of low-risk individuals can contribute more problem cases than a small number of high-risk individuals. Consequently, universal interventions can affect more people and have a greater population impact. The benefits cited for targeted programs are that they can be more cost-effective and are necessary for addressing existing inequities.

This report recommends that a mix of universal and targeted approaches be used to address drug-related problems. Two disadvantaged groups in Australia, whose children are disproportionately represented in the criminal justice system and experience a higher rate of drug-related problems than the general community, are discussed: sole-parent families and Aboriginal and Torres Strait Islander peoples.

Sole-parent families

An increasing proportion of Australian children are living in sole-parent families: the rate increased from 12 per cent in 1976 to 25 per cent in 2001. By adolescence, half of the population has lived in a sole-parent family at some time in their lives. Children of sole-parent families have been found to develop up to five times the rate of emotional, behavioural, social and academic problems relative to other children. Specifically, children of sole-parent families are more likely to smoke, drink heavily and to use illicit drugs.

A multitude of reasons have been found or hypothesised to explain these results. These include:

- factors present prior to the separation:
    - socio-economic disadvantage
    - elevated rates of adverse life events
    - higher levels of inter-parental conflict
- the stress associated with separation or divorce
- post-separation conditions:

    - socio-economic disadvantage
    - the amount of time that parents can engage with their child in play or school-related activities
    - more reliance on friends and peer groups who use substances
    - continuing conflict between parents
    - stress of moving house and repartnering
- less effective coping skills in divorced children
- impaired parental monitoring and parenting practices. Divorced parents also use more drugs and alcohol than do never-divorced parents.

The low socio-economic status of sole-parent families is of particular concern. While different measures of poverty result in different rates of poverty among sole-parent families, the over-representation of sole-parent families in poverty statistics is constant:

- The Australian Bureau of Statistics reported that, in 2001, over 350,000 families with children aged less than 15 years had no employed resident parent. Almost two-thirds (64 per cent) of these families were one-parent families.
- The Luxemburg Income Study reported that Australian lone-parent households have a poverty rate of 56 per cent compared with 8 per cent for couple families.

Clearly economic hardship among sole-parent families is a primary issue that needs to be addressed. Also, there is a clear need for practical support in raising children, for example, via childcare services, mentor programs and youth development programs.

Aboriginal and Torres Strait Islander peoples

The health, well-being and drug-use patterns of Aboriginal and Torres Strait Islander peoples are significantly worse than for the rest of the Australian population. A multitude of reasons have been found or hypothesised to explain this situation. While the experiences of Aboriginal and Torres Strait Islander communities are not the same, many experienced brutality and trauma from the European usurpation of their lands. This was followed by successive policies of 'protection' and 'assimilation', one objective of which was to reshape Aboriginal and Torres Strait Islander peoples societies in the image of the dominant society, with all the undermining of Aboriginal and Torres Strait Islander peoples cultural practices, languages and so on that this entailed. These experiences weakened communities, the authority of elders, and family strength, as well as contributing to stress and trauma, loss of culture and loss of parenting skills. Policies that deprived Aboriginal and Torres Strait Islander peoples of status, power or self-determination contributed to feelings of inferiority, powerlessness and hopelessness. European settlers introduced tobacco and alcohol to Aboriginal and Torres Strait Islander peoples as a form of payment and to procure sexual favours. Then prohibitions were introduced, so the status of alcohol increased to be regarded as a race/class privilege. The experience of Aboriginal and Torres Strait Islander peoples resulted in loss of positive role models and loss of social capital. This in turn has resulted in:

- poorer educational attainment
- unemployment, which contributes to welfare dependency, apathy, boredom, loss of self-esteem and economic disadvantage
- physical and mental health problems, including self-harm and suicide
- alcohol and other drug use, crime rates and violence.

All of the above contribute to many Aboriginal and Torres Strait Islander peoples feeling hopeless, angry, traumatised and ashamed, and being stigmatised (victim blaming) and marginalised (socially excluded). These outcomes further contribute to their alcohol and other drug problems.

Other contributors to alcohol and other drug problems include:

- living in remote communities that lack access to resources
- the series of failed interventions that have characterised previous attempts to address the problems experienced by Aboriginal and Torres Strait Islander peoples (for example, welfare dependency, drug/alcohol interventions). These interventions have been inadequate and have not addressed the fundamental causes of problems. These failures have further contributed to a sense of hopelessness among Aboriginal and Torres Strait Islander peoples and the wider community.

In sum, alcohol and other drug-use problems among Aboriginal peoples are the result of a long history of social problems, which cannot be fixed by a simple intervention. Recommendations for addressing the existing situation include:

- Build strength/resilience (feelings of hope, family strength, community capital) in addition to addressing specific problems such as drug use, suicide, crime, unemployment and domestic violence.
- Publicise and promote successes/strengths of Aboriginal and Torres Strait Islander peoples rather than focus on problems — to raise sense of hope among Aboriginal and Torres Strait Islander peoples as well as in the broader community.
- Facilitate self-help and self-determination, without expecting communities to do it alone.
- Employ a whole-of-government approach so that resources can be used efficiently and effectively.
- Be realistic — change will take time.

Conclusions and Recommendations

Understand the complexity of the development of drug-use behaviours

The complex nature of the development of drug-use behaviours and problems needs to be appreciated. This means, for example:

- Understanding the development of problems across the life course rather than focusing only on the period of initiation of drug use.
- Understanding that there are shared risk and protective factors for drug-use behaviours and other problem behaviours, so treating drug use in isolation can be inefficient. Drug prevention initiatives need to address shared determinants with crime prevention, suicide prevention, bullying prevention and so on.
- There are multiple risk factors for drug use across multiple domains; failure to address the spectrum of contributors to drug-use problems will result in limited benefit.
- Any single intervention, single sector or single worker can have only a limited impact on drug-use problems. No person, agency or sector by itself can 'fix' an individual or a community. Comprehensive and sustained action is needed for effective prevention and treatment.

Investments to support human development across the life course
Investment in development across the life course is needed, as well as specific problem prevention strategies. Such investments need to incorporate:

- structures for child and youth development. For example, there are currently few programs provided for adolescents outside school hours; 'full-service schools' which have been developed in the United States of America provide one model for extending existing infrastructure towards this end
- early interventions and safety nets across the life course for those who begin problematic trajectories (for example, diversion programs for drug offenders). Transition periods, in particular, might require greater assistance. For example, the transitions from high school to the workforce and from prison to the community require support and the provision of opportunities to facilitate successful transition
- greater assistance (rather than marginalisation and punishment) for those who are not managing; for example, commitment to rehabilitation and support for people in the juvenile and adult prison system.

Investment in child and youth development has been shown to be cost-effective.

Holistic approach
Holistic approaches to individuals and across systems are needed:

- Whole-of-government systems can provide coordinated services, more cost-effective planning and harm prevention. Examples of mechanisms for achieving this include full-service schools (as developed in the United States of America) and Community Drug Action Teams.
- For drug-dependent people, a holistic approach to service provision is necessary to address the multiple health, family, social, socio-economic and other problems they experience. The broader service system also needs to be prepared to assist drug-dependent people, who tend to experience marginalisation and stigmatisation from mainstream service providers.
- Focus on building the resilience of individuals, families and communities rather than just preventing isolated problems.

Cultural shift
A cultural shift from a society dominated by individualism and economism to a more caring and inclusive society is needed — that is, a shift in focus from measuring progress in terms of economic growth to monitoring the health and well-being of the population.

- This requires leadership from politicians, academics and others.
- It can be promoted by schools (for example, programs such as 'Roots of empathy', school climate) and by community-building programs.

Inequities in drug problems
Existing inequalities in the distribution of drug problems must be addressed. This means:

- addressing each level of the causal chain from the causes of disadvantage (for example, low socio-economic status) to the mediators of disadvantage (for example, lower access to resources) to the impacts of disadvantage (for example, drug dependence)

- ensuring policies do not exacerbate disadvantage. Mechanisms for achieving this include health impact assessments, reviews of existing policies and monitoring of new policies
- affirmative action for disadvantaged groups such as sole-parent families and Aboriginal and Torres Strait Islander peoples.

Monitoring

- Trends in child, youth and adult drug use and related problems as well as social factors that contribute to these outcomes need to be monitored to identify problems as they arise.
- Activities and outcomes relating to child and youth well-being, family functioning and community resilience need to be monitored and policies and programs need to be adjusted in light of the information collected.

There are significant barriers to change. For example, it is easier and less costly in the short term to conduct interventions and research at the individual level than at the community, state and national levels. However, the environment is a powerful shaper of behaviour and health, and government and other social organisations fulfil an essential role in shaping that environment.

CHAPTER 1: INTRODUCTION

BACKGROUND

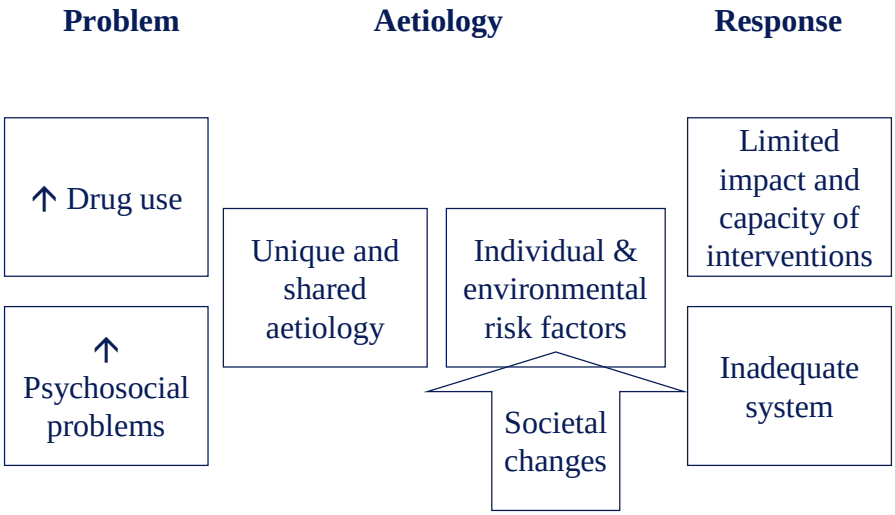
The following inter-related observations (illustrated in Figure 1) have contributed to the focus of this report on social and structural determinants of drug use,[a] with a developmental perspective:

- Despite significant public expenditure and effort, evidence indicated that drug use and related problems were increasing, that the age of initiation of drug use was decreasing, and that new drug patterns (for example, the use of ecstasy and related drugs) were emerging.
- There have been increases in other behavioural and psychosocial problems.
- The co-occurrence of these increases is likely to be due to a combination of shared risk factors. Consequently, there is value in addressing shared risk factors, rather than treating these problems in isolation.
- The development of drug use and other risk behaviours is the result of a complex interplay of individual and environmental risk factors. Interventions that address only individual risk factors (for example, knowledge, skills, attitudes) can have only limited impact when environmental risk factors remain unchanged and continue to be influential.
- Western societies have been undergoing rapid social changes and these changes appear to be adding to the environmental risk factors for drug misuse and other problems.
- Social institutions (for example, childcare, education systems) do not appear to be completely effective, particularly in the context of these social changes.

This report focuses on environmental risk factors for drug use, particularly those that also contribute to other psychosocial and behavioural problems. It examines how our social institutions and policies can influence the environment in such a way as to reduce drug use and related problems. Other aspects of the aetiology and prevention of problematic drug use are important (i.e. drug-specific interventions such as drug policies, drug law enforcement, and individual risk factors such as knowledge and skills), but are not reviewed in this report as they are fully discussed elsewhere. [1] Each of the elements of the rationale for this project is discussed below.

[a] Throughout this report, the term 'drug' is used to denote any psychoactive drug (or 'substance'), including tobacco, alcohol, pharmaceuticals, cannabis, ecstasy, cocaine, amphetamines, heroin and volatile substances.

Figure 1: Elements contributing to this report



Problematic drug use

Not all drug use is problematic. In fact, drug use can be normative [2] and functional. [3] This report is concerned with drug use that *could* be associated with harm (for the drug user or others) or *is* contributing to harm (to the user or others). This concept is further delineated below, followed by a description of problematic drug-use patterns and trends.

Definition

Various systems of classification attempt to identify drug-use patterns, with no one system sufficiently descriptive of the range of problems that exist. For example, the American Psychiatric Association has developed the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV), which outlines specific criteria for the diagnosis of drug-use disorders, including drug abuse and drug dependence (Appendix 1). [4] The criteria for drug abuse entail continued drug use despite use resulting in significant problems. The criteria for drug dependence include, in addition to continued drug use despite problems, symptoms such as tolerance and withdrawal. The International Classification of Diseases and Related Health Problems, tenth revision (ICD-10), outlines criteria for dependence similar to the DSM-IV criteria for dependence (Appendix 2). [5]

The World Health Organization provides further terms to describe use that might not qualify for such a diagnosis, but might be of concern: [6]

(a) *Unsanctioned use*: use of a drug that is not approved by a society, or a group within that society.
(b) *Hazardous use*: use of a drug that will probably lead to harmful consequences for the user. This concept is similar to the idea of risky behaviour.
(c) *Dysfunctional use*: use of a drug leading to impaired psychological or social functioning (e.g. loss of job or marital problems).
(d) *Harmful use*: use of a drug that is known to have caused tissue damage or mental

illness in the particular person (p. 228). [6]

The Advisory Council on the Misuse of Drugs in the United Kingdom defined 'problem drug use' as 'drug use with serious negative consequences of a physical, psychological, social and interpersonal, financial or legal nature for users and those around them' (p. 7). [7] The National Health and Medical Research Council (NHMRC) has developed guidelines that define drinking patterns as low risk, risky (short and long term) and high risk (short and long term) for males and for females (www.alcoholguidelines.gov.au). These are summarised in Table 1.

Table 1: National Health and Medical Research Council Australian alcohol guidelines

	Low risk	Risky	High risk
		(Standard drinks)	
Risk of harm in the short term			
Males	Up to 6 (on any day, no more than 3 days per week)	7 to 10 (on any one day)	11 or more (on any one day)
Females	Up to 4 (on any day, no more than 3 days per week)	5 to 6 (on any one day)	7 or more (on any one day)
Risk of harm in the long term			
Males			
On an average day	Up to 4 (per day)	5 to 6 (per day)	7 or more (per day)
Overall weekly level	Up to 28 (per week)	29 to 42 (per week)	43 or more (per week)
Females			
On an average day	Up to 2 (per day)	3 to 4 (per day)	5 or more (per day)
Overall weekly level	Up to 14 (per week)	15 to 28 (per week)	29 or more (per week)

Source: National Health and Medical Research Council, 2001, p. 5 [8]

Drug use would clearly be regarded as problematic when:

- It qualifies the user for a DSM-IV or ICD-10 diagnosis of drug abuse or drug dependence (Appendices 1 and 2). [4 5]
- For alcohol, it meets NHMRC guidelines for risky drinking. [8]
- It involves smoking (there is no safe level of use of tobacco). [9]

There is disagreement regarding the classification of some drug-use behaviours as 'problematic'. For example, some people would regard *any* illicit drug use as problematic because it is illegal, whereas others might argue that if there are no problems associated with use, apart from the fact that use is illegal, then it is not problematic. Given that 33 per cent of a sample of Australians aged 14 years and over (59 per cent of the 20–29 year age group) reported in 2001 that they had ever used cannabis, [10] some would argue that cannabis use is so prevalent that it should not be regarded as deviant or problematic. Others, such as the police, might disagree, arguing that the illicit drug trade can be violent and that any participation in that trade contributes to that violence.

The use of *any* drug by adolescents is regarded as problematic or as drug abuse by some people. For example, Tarter argued that any use of any drug by an adolescent is 'drug abuse', because (at least in the United States of America) it is illegal for adolescents to smoke cigarettes or consume alcohol, let alone use illegal drugs. [11] Yet others argue that experimentation, even with illegal drugs, is a normal part of growing up. This argument is supported by the results of a longitudinal study (from preschool to age 18) that compared three groups of adolescents: one group who had experimented with drugs, a second group who had not experimented with drugs, and a third group who used drugs frequently. Adolescents who were frequent drug users were most likely to be maladjusted — demonstrating interpersonal alienation, poor impulse control and manifest emotional distress. Adolescents who had engaged in some drug experimentation (primarily cannabis) were the best adjusted in the sample. Adolescents who, by age 18, had never experimented with any drugs were relatively anxious, emotionally constricted and lacking in social skills. [12]

Others are concerned about early initiation of drug use because it has been associated with later problems. [13] For example, some research suggests the use of cannabis can be associated with use of other illicit drugs (that is, the gateway hypothesis), although this is a subject of considerable debate. [14-17]

The issue of whether or not a certain pattern of drug use is 'problematic' is open to different interpretations and cannot be solved here. Throughout this report the term 'drug use' refers to a range of drug-use patterns. We do not assume that all drug use is risky, harmful or immoral. However, we are primarily concerned with drug use that is risky or harmful to the health and well-being of the user or others such as family and the general community.

Problems associated with drug use

Alcohol, tobacco and illicit drugs are major contributors to the burden of disease in Australia and worldwide (Table 2). [18] The health harms associated with drug use will not be examined here, as such reviews exist elsewhere. [19 20]

Table 2: Leading causes of burden of disease and injury in young adults aged 15–24 years: disability-adjusted life years (DALY) by sex, Australia, 1996

Males	DALY	Per cent of total	Females	DALY	Per cent of total
Road traffic accidents	15,013	13.2	Depression	14,096	14.3
Alcohol dependence and harmful use	12,827	11.3	Bipolar affective disorder	7,054	7.2
Suicide and self-inflicted injuries	10,421	9.1	Alcohol dependence and harmful use	6,703	6.8
Bipolar affective disorder	7,076	6.2	Eating disorders	6,401	6.5
Heroin dependence and harmful use	8,411	7.3	Social phobia	5,886	6.0
Schizophrenia	5,291	4.6	Heroin dependence and harmful use	5,125	5.2

Source: Mathers C, Vos T, Stevenson C, 1999, p. 71 [21]

Drug use can be associated with a range of harms — not just health harms for users. For example, drug dealing is associated with a range of problems, including arrest and involvement in violence. [22] MacCoun and Reuter have presented a multidimensional 'taxonomy of harm' [23] which includes four categories of harm (health, social and economic functioning, safety and public order, criminal justice); six groups that bear the harms/risks (users, dealers, intimates (family, partners, friends), employers, neighbourhood and society); and three sources of harm (use, illegal status and enforcement).

Young people are particularly vulnerable to harms from alcohol and other drug use. For example, Fergusson and colleagues' longitudinal research in New Zealand found that cannabis use in adolescence and early adulthood impeded the educational achievement of young people at age 25. [24 25] Guo and colleagues' longitudinal study of youth aged 10–21 years in Seattle found that binge drinking and cannabis use during adolescence predicted behaviours that placed people at risk of contracting sexually transmitted diseases, such as HIV, at age 21. [26] White, Bates and Labouvie reviewed the research on the adult outcomes from adolescent drug use and concluded that, while there are some contradictory findings, there is evidence to suggest that drug use can affect longer term developmental outcomes. [27]

Young people can also suffer negative consequences from their parents' drug use; for example, as a result of environmental tobacco smoke, [28 29] drug use during pregnancy [30] and the increased risk of adverse parenting by drug-dependent parents. [31-34] This is not to say that drug-dependent people are necessarily poor parents. [35] However, research has demonstrated that children of drug-dependent parents are more likely to be at risk than other children.

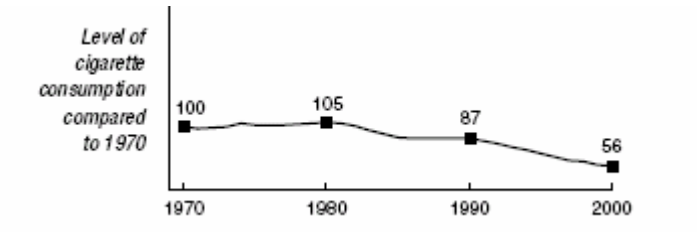
This section has only touched on the multiple problems associated with drug use. The aim of this section is not to imply that all drug use is harmful, but to identify the multiple risks and harms associated with drug use and the need to minimise those risks and harms.

Trends in drug use

Substantial funds have been devoted to drug prevention in Australia. According to the Australian Institute of Health and Welfare (AIHW), the Australian Government spent $146.2 million on the prevention of hazardous and harmful drug use in 2000–01. [36] This represented 15 per cent of the total national expenditure ($987 million) on core public health activities, making drug prevention the fourth most highly funded public health activity, after organised immunisation, communicable disease control and selected health promotion.

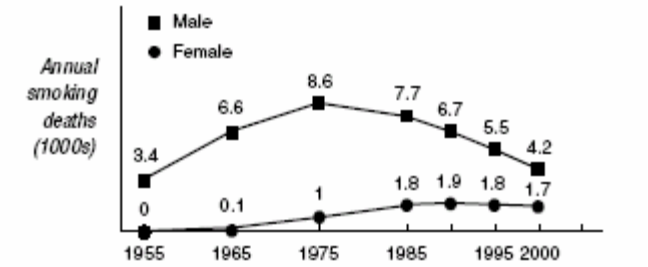
There have been some 'successes' in drug prevention, particularly where efforts have been substantial, sustained and evidence-based. For example, evidence strongly supports the impact of random breath testing on road accidents [37 38] and the impact of needle and syringe programs on the transmission of blood-borne viruses, particularly the human immunodeficiency virus (HIV) and the hepatitis C virus. [39] Further, there have been positive trends in drug-use consumption patterns, perhaps reflecting public health programs. For example, smoking rates, particularly among males, [40-42] have reduced in most developed countries, including Australia, in the past 30 years. [43] Annual per capita consumption from 1970 to 2000 and smoking-attributable deaths by gender in Australia, as provided by Shafey and colleagues, are illustrated in Figures 2 and 3. [43]

Figure 2: Annual per capita consumption, three-year moving average



Source: Shafey O, Dolwick S, Guindon GE (eds), 2003, p. 62 [43]

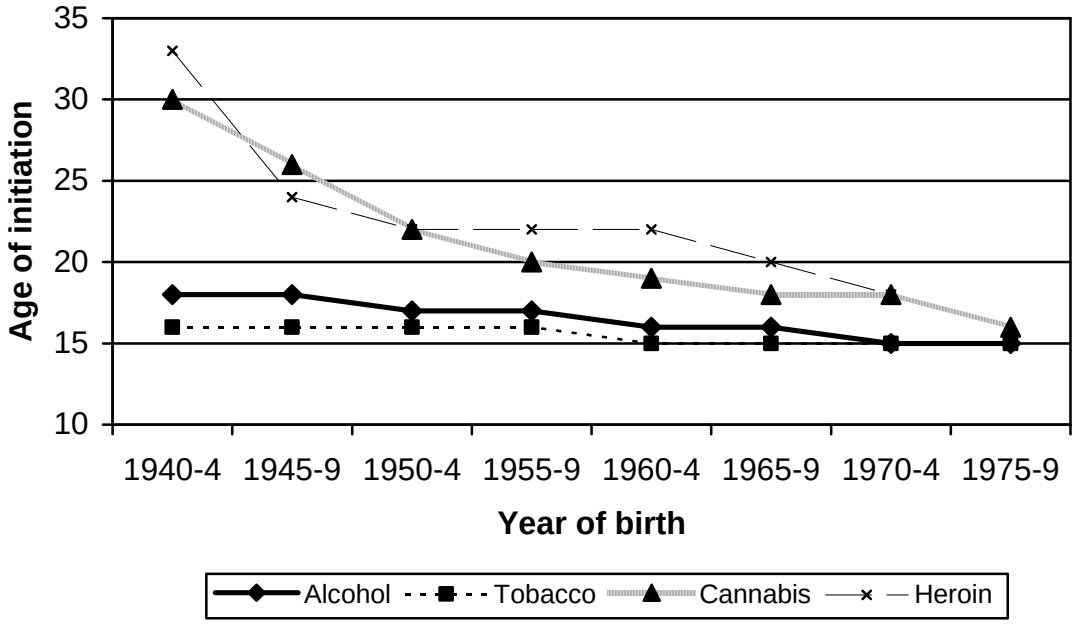
Figure 3: Smoking-attributed numbers of deaths per year, ages 35–69 only



Source: Shafey O, Dolwick S, Guindon GE (eds), 2003, p. 63 [43]

In contrast to tobacco use, trends in alcohol and other drug use suggest increased use. [44] [45] For example, Degenhardt and colleagues analysed data from the 1998 National Drug Strategy's household survey of drug use. [46] [47] They identified that, relative to older cohorts, younger cohorts commenced use of alcohol and tobacco at a younger age, were more likely to have used cannabis, amphetamines, heroin and hallucinogens (LSD), and to have commenced such use at a younger age (Figures 4 and 5).

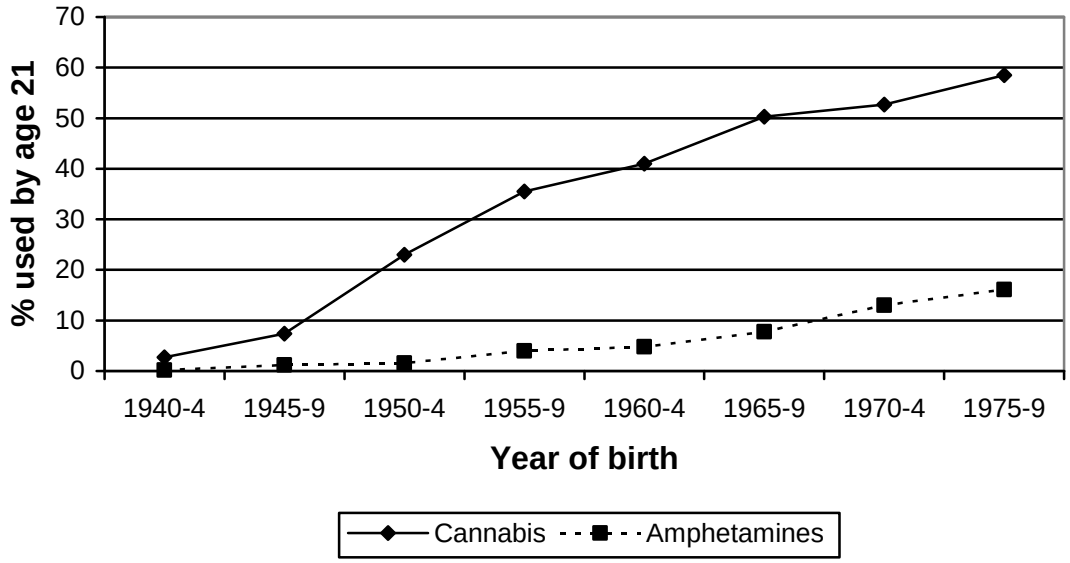
Figure 4: Cohort trends in age of initiation



Source: Degenhardt L, Lynskey M, Hall W, 2000, pp. 421–426 [47]

Figure 4 illustrates that a person born between 1940 and 1944, who had ever used heroin or cannabis, first did so, on average, in their early thirties. A person who was born between 1975 and 1979, who had ever used heroin or cannabis, first did so as a teenager. This indicates that the age of initiation of heroin use and of cannabis use has dropped substantially. A decrease in the age of initiation of tobacco use and of alcohol use (from age 18 to age 15) was also reported.

Figure 5: Cohort trends in use by age 21

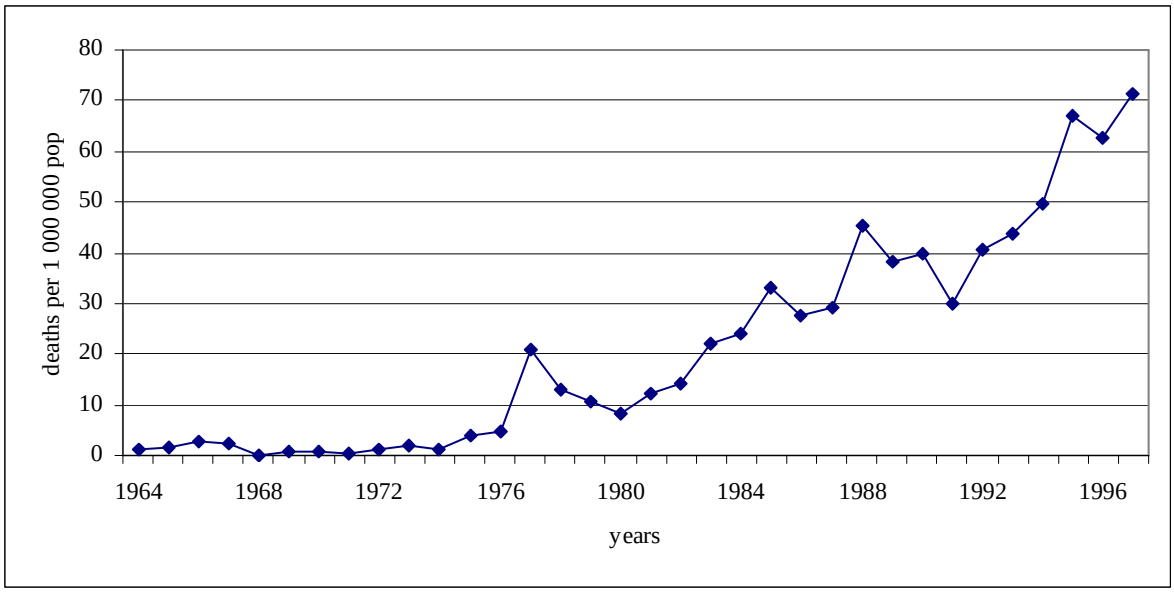


Source: Degenhardt L, Lynskey M, Hall W, 2000, pp. 421–426 [47]

Figure 5 illustrates how the prevalence of the use of cannabis and amphetamines has increased in the past 50 years. In the cohort born between 1940 and 1944, less than 5 per cent had used cannabis or amphetamines by age 21. Among those born between 1975 and 1979, 18 per cent had used amphetamines and 60 per cent had used cannabis by age 21.

Another trend of concern has been the increase in opioid overdoses since the 1960s (illustrated in Figure 6). [48] [49] Following a peak in 1999, the rates of overdose have declined, [50] but not to the levels seen in the 1960s.

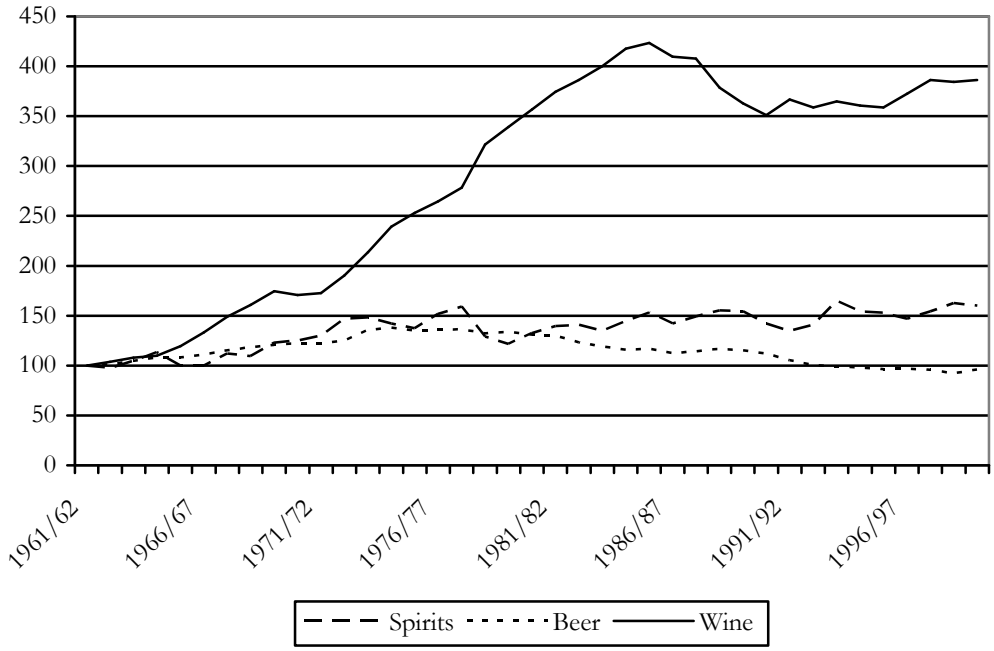
Figure 6: Trends in opiate overdose mortality, 1964–1997



Source: Hall, W, Degenhardt L, Lynskey M, 1999, pp. 34–37 [49]

While the World Health Organization reported that alcohol consumption per capita has generally declined in developed countries since a peak in the 1970s, [51] Figure 7 illustrates how alcohol use in the form of wine consumption has increased in Australia since the 1960s.

Figure 7: Consumption of alcohol (standardised), Australia, 1961–2000



Source: Productschap voor Gedistilleerde Dranken (Commodity Board for the Distilled Spirits Industry), 2001[52].
Notes: [1] Standardised to 1961–62. i.e. A value of 100 means that consumption was equal to that in 1961–62. A value of 200 means double and a value of 50 means half that in 1961–62.
[2] Includes low alcohol and alcohol-free beer, market share in 1991: less than 0.5%. Data values for spirits 1998–99 and 1999–2000 and beer 1998–99 are estimated data.

Further data on alcohol consumption in Australia were provided by the 2001 National Drug Strategy household survey. Researchers from the National Drug Research Institute compiled this data with reference to the NHMRC guidelines for alcohol consumption (presented above). [53] The results reported by Chikritzhs and colleagues illustrated that drinking patterns in Australia are far from ideal. For example:

- The vast majority of alcohol consumption reported by young people was at a risky or high-risk level for acute harm: 85 per cent of females aged 14–24 years, and 80 per cent of males aged 14–17.
- Nearly half (44 per cent) of all alcohol use reported was consumed by people who exceeded the NHMRC guidelines for avoiding problems from the chronic effects of alcohol.
- The percentage of girls aged 14–17 years who drank at risky or high-risk levels for long-term harm rose from 1 per cent in 1998 to 9 per cent in 2001.

The use of amphetamines [51] and ecstasy and related drugs [54-57] has increased. In Australia, the percentage of people in general population surveys who reported that they had ever used ecstasy increased from 2 per cent in 1995 to 6 per cent in 2001. [58] At least some of this use has resulted in problems for users, as reflected in statistics from the Alcohol and Other Drug Treatment Services National Minimum Dataset. [59] This dataset indicated that, among 20–29 year olds receiving treatment for drug problems in Australia in 2002–03, 'party drugs' such as amphetamines, ecstasy and cocaine were the principal drug of concern in 11 per cent of treatment episodes for 10–19 year olds, 16 per cent for 20–29 year olds, and 8 per cent for clients aged 30 years or more.

Taken together, these trends suggest that, despite significant expenditure on drug prevention, drug use and drug-related problems remain high or are increasing. In order to adequately address drug-use problems, more needs to be done or perhaps a different approach taken. While these trends could be due to factors such as increased availability of drugs, trends in other areas, for example, youth suicide rates, suggest they are part of a broader social pattern. This will be discussed later in this report.

Problem behaviours and comorbidity

Problematic drug use has been associated with other problem behaviours such as delinquency and school failure and with mental health problems. As discussed below, the relationships are complex but the shared risk factors and developmental sequences need to be considered in aetiological research and in interventions.

Drug use and other problem behaviours

There are a number of related terms used to describe behaviours that are problematic.

Delinquent behaviour:	Behaviours that are '(a) engaged in by adolescents and (b) labelled "criminal" by society' (p. 764) [60]
Antisocial behaviour:	Behaviour that is 'contrary to accepted social customs and causing annoyance' (Oxford Dictionary)
Problem behaviour:	Behaviours that usually elicit social sanctions (for example, illicit drug use, delinquency, drink-driving) [61]
Risk behaviour:	Behaviour 'that can compromise well-being, health and the life course' (p.2). [61] Jessor describes risk behaviours as behaviours that are *risk factors* for personally, socially or developmentally undesirable outcomes (for example, unhealthy eating, tobacco use, sedentariness, truancy, school drop-out, drug use at school).

Some researchers have advocated a general deviance or problem behaviour construct (in particular, Jessor), [61 62] while others have argued for a more differentiated approach. [63] There are arguments for both conceptualisations. For example, Loeber and colleagues tested Jessor's theory of problem behaviour using data from the Pittsburgh Longitudinal Study of three age groups of 1,517 boys from Pittsburgh public schools. The authors reported that the analyses provided:

> considerable support to Jessor's problem behavior theory, with many problem behaviors being associated with many other problem behaviors and with shared risk factors being linked to different manifestations of problem behavior. (p. 135)

However, while they found that drug use, attention deficit hyperactivity disorder (ADHD), conduct problems, physical aggression, covert behaviour, depressed mood and being shy/withdrawn did correlate, the strength of correlations varied between outcomes and were strongest for those outcomes that were developmentally close to each other. The highest correlations were between ADHD scores, covert behaviour, physical aggression, conduct problems and delinquency. The lowest correlations were between depressed mood, shy/withdrawn behaviour and drug use, although these were all significantly correlated in most comparisons.

In this report, the term 'problem behaviour' is used as a broad term to denote the various behaviours described above. However, we note that participation in any of the above can occur within the bounds of normal adolescent behaviour and that, in fact, engagement in some problem behaviours can be a normal part of meeting a developmental need. [60] Moffitt and colleagues have described how delinquency can be life course-persistent or adolescent-limited:

> delinquency conceals two distinct categories of individuals, each with a unique natural history and etiology: A small group engages in antisocial behavior of one sort or another at every life stage, whereas a larger group is antisocial only during adolescence. According to the theory of life course-persistent antisocial behavior, children's neuropsychological problems interact cumulatively with their criminogenic environments across development, culminating in a pathological personality. According to the theory of adolescence-limited antisocial behavior, a contemporary maturity gap encourages teens to mimic antisocial behavior in ways that are normative and adjustive. (abstract) [64]

Adolescent-limited antisocial behaviour is more common but shorter lived than life course-persistent antisocial behaviour. [64] While Moffitt described adolescence-limited delinquency as an 'adaptive behaviour' (p. 685), he argued that life course-persistent antisocial behaviour can be considered a psychopathology 'characterised by tenacious stability across time and in diverse circumstances' (p. 685). Moffitt noted that interventions with life course-persistent individuals have met with 'dismal results' (p. 684).

Comorbidity: drug-use disorders and mental disorders

It is well documented that people with drug-use disorders often have a concurrent mental disorder [65 66] and suicidal behaviour. [67-71] For example, results from the Australian National Survey of Mental Health and Wellbeing identified that 66 per cent of males and 45 per cent of females who had a drug disorder also had an anxiety and/or affective disorder.[b] Teesson and Proudfoot illustrated the co-occurrence of these disorders among males and females (Figures 8 and 9). [72]

[b] Anxiety disorders: social phobia, agoraphobia, panic disorder, generalised anxiety disorder, obsessive compulsive disorder, and post-traumatic stress disorder.
Affective disorders: major depressive episode, dysthymia, mania, hypomania and bipolar affective disorder.
Drug-use disorders: abuse/harmful use and dependence on alcohol or four types of drug: cannabis, opioids, sedatives and stimulants.

Figure 8: Prevalence (%) of single and comorbid affective, anxiety and substance use disorders amongst Australian <u>males</u> in the past year

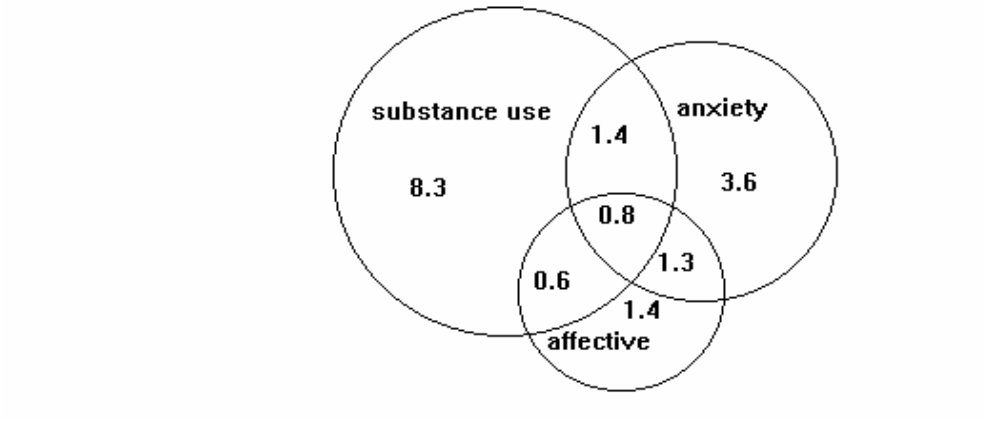
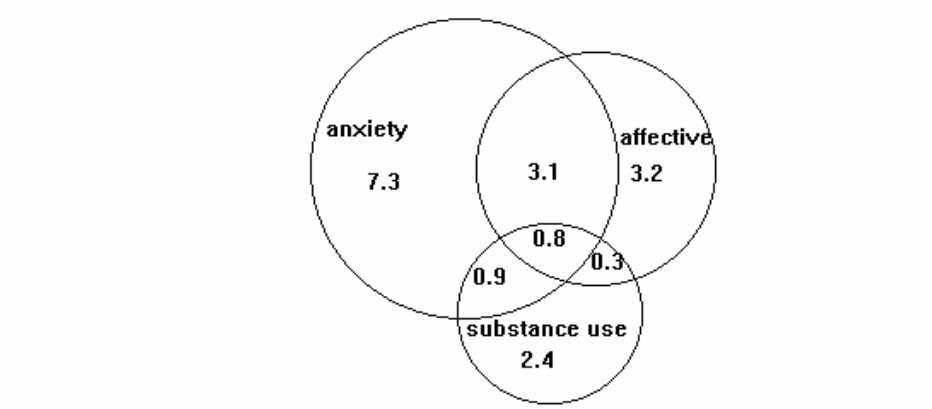


Figure 9: Prevalence (%) of single and comorbid affective, anxiety and substance use disorders amongst Australian <u>females</u> in the past year



Source: Teesson M, Proudfoot H (Eds.), 2003, pp. 3–4 [73]

Treatment-based studies of drug-dependent people also indicated high rates of comorbidity among people with a drug disorder. For example:

- Mills, Teesson, Darke, Ross and Lynskey reported on a study of a cohort of 210 young Australians aged 18–24, who had entered a drug-treatment facility for heroin dependence. In this sample, the following rates of psychiatric comorbidity were identified: 37 per cent lifetime Post Traumatic Stress Disorder, 23 per cent current Major Depression (17 per cent had attempted suicide in the preceding year), 75 per cent Anti-Social Personality Disorder, and 51 per cent Borderline Personality Disorder. [74]
- Spooner, Mattick and Noffs reported on a study in which 120 adolescents who applied for a residential drug treatment program in Sydney were screened using the Symptom Checklist-90-Revised, a psychiatric screening instrument that assesses psychological symptom status on nine dimensions: somatisation, obsessive-compulsive traits, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid

ideation, psychoticism. More than half of the females (56 per cent) and a quarter of the males (25 per cent) were classified as 'cases' or at risk of having a psychiatric disorder. [75]

- Callaly and colleagues, using the Composite International Diagnostic Interview, interviewed a sample of 62 methadone clients within six months of commencing the program. They found a prevalence rate of psychiatric disorder up to ten times higher among the methadone clients than would be expected for a general population sample. [76]

Negative trends in related problems

It is not uncommon for individuals and the media to express concern about increases in drug use and crime. However, such concerns are often not balanced or are not based upon valid and reliable data. Positive trends exist, but these are rarely a subject of discussion. For example, infant mortality rates in Australia have halved in the last 25 years and life expectancy has increased in the last century by 22 years (40%) for males and 24 years (41%) for females. [77]

With respect to the evidence base, we do not have valid and reliable long-term data for most psychosocial problems. Such data either do not exist or are of limited utility. For example, observed changes can be due to artefact resulting from changes in reporting. Disagreement exists as to whether some outcomes are actually increasing or decreasing (see, for example, the debate regarding trends in child sexual assault). [78-80]

Graycar described how crime trend data can be difficult to interpret. [81] Legislation (for example, criminal sanctions for topless bathing or homosexual acts between consenting adults), levels of attention from police and courts for particular crimes and groups, opportunities (for example, the availability of cars and of illegal drugs), reporting (for example, of domestic violence and child abuse), the social system (for example, treatment of people with mental disorders), record keeping (for example, Aboriginal Australians were not counted in official statistics at the beginning of the 20th century) and sentence options (for example, diversion options) have varied so much over the last century that long-term trends are not a good reflection of actual trends in criminal behaviour.

Having noted the need for caution and balance, various prominent researchers have reported negative trends in a number of behaviours and other indicators of well-being in Western societies. [82-84] Perhaps the most cited and credible of these reports is that of Rutter and Smith, who investigated international trends in psychosocial problems and reported increases in crime, depression and suicide. [82] In relation to crime, they reported that, across the last two centuries, crime followed a U-curve. High rates of crime and disorder were observed early in the 19th century, especially in larger cities, followed by falling crime rates in the late 19th and early 20th century, and large increases after the Second World War. Rutter and Smith described the increases in crime between 1951 and 1990 as 'striking', and noted that most crime was committed by young people under age 29. While country variations existed, the crime rate per head of population generally increased by a factor of about five during this period. With regard to specific crimes over the period 1977–90, substantial increases in rates of serious assault in Australia, Denmark, England and Wales were reported. While no data were found on depression for the period before the Second World War, evidence from a range of studies has suggested an increase in depressive symptoms since then. During the 20th century, a general increase in suicide was recorded across Europe, with the increase in the last third of the 20th century confined to young people in particular.

Researchers from the Institute of Psychiatry, King's College London and the University of Manchester reported an analysis of data from three national surveys conducted in the United Kingdom in 1974, 1986 and 1999. Consistent with Rutter and Smith's analyses, they identified increases in emotional problems (such as depression and anxiety) and conduct problems for both males and females aged 15 years. [85] [86] Furthermore, they reported the emergence of a social class gradient in these emotional problems throughout this period.

Summarising data from the United States of America, Bronfenbrenner and colleagues reported a number of negative trends in crime rates. These included increased rates of violent crime, aggravated assault and robbery between 1960 and 1995; and a 168 per cent increase in the number of arrests for homicide between 1984 and 1993 among youth aged less than 18 years. [83] Twenge reported on two meta-analyses that indicated that people from the United States of America have developed higher levels of anxiety and neuroticism since the 1950s.[87] Since Bronfenbrenner's report, the United States Department of Health and Human Services has produced annual reports on trends in the well-being of children and youth in the United States. [88] Some problematic trends appear to have levelled off. For example, suicides, violent crime arrest rates and deaths due to injury by firearms among youth have reduced since their peak in the mid-1990s.

Professor Fiona Stanley has presented indicators of adverse trends in the developmental health of Australian children and young people. Among a list of indicators, Stanley noted: [84]

- The rate of youth suicides for young males has trebled since 1960.
- The death rate from drug dependence in 1998 was almost five times the 1979 rate.
- Cases of permanent brain damage due to child abuse (shaken baby syndrome) have risen dramatically since 1985.
- Reports of child sexual assault have more than doubled in the last decade.
- Involvement by juveniles in offences against the person has increased.

Even regarding those trends about which we can be reasonably confident, the reasons for their patterns are likely to be complex. Smith and Rutter regarded social disadvantage, inequality and unemployment as unlikely reasons for the psychosocial trends they reported (above). They suggested these trends could be due to increased prevalence in family risk factors such as parental conflict, separation and neglect; changes in adolescent transitions; cultural shifts (breakdown in frameworks providing values, purpose, a sense of belonging). [89] Bronfenbrenner attributed the observed trends to a notion of 'growing chaos', [83] while Keating and Hertzman posited societal change as the cause. [90] Each of these explanations suggests that aspects of our changing society are having a negative impact on some outcomes, including drug use.

Explanations for co-occurrence

Why does drug misuse tend to co-occur with other problem behaviours and mental health problems? This section explores answers to this question.

Drug misuse and problem behaviours

Some researchers suggest that problem behaviours co-exist because they share a common aetiology. [61] [62] Hawkins, Catalano and Arthur reviewed the literature and summarised a range of shared and specific risk factors for adolescent drug abuse and other problem behaviours. Their summary table is reproduced in Table 3. [91]

Table 3: Adolescent problem behaviours

Risk factors	Substance abuse	Delinquency	Teen pregnancy	School drop-out	Violence
Community					
Availability of drugs	✓				✓
Availability of firearms		✓			✓
Community laws and norms favourable toward drug use, firearms and crime	✓	✓			✓
Media portrayals of violence					✓
Transitions and mobility	✓	✓		✓	
Low neighbourhood attachment and community disorganisation	✓	✓			✓
Extreme economic deprivation	✓	✓	✓	✓	✓
Family					
Family history of the problem behaviour	✓	✓	✓	✓	✓
Family management problems	✓	✓	✓	✓	✓
Family conflict	✓	✓	✓	✓	✓
Favourable parental attitudes and involvement in the problem behaviour	✓	✓			✓
School					
Early and persistent antisocial behaviour	✓	✓	✓	✓	✓
Academic failure beginning in later elementary school	✓	✓	✓	✓	✓
Lack of commitment to school	✓	✓	✓	✓	✓
Individual/peer					
Alienation and rebelliousness	✓	✓		✓	
Friends who engage in the problem behaviour	✓	✓	✓	✓	✓
Favourable attitudes toward the problem behaviour	✓	✓	✓	✓	
Early initiation of the problem behaviour	✓	✓	✓	✓	✓
Constitutional factors	✓	✓			✓

Source: Hawkins JD, Catalano RF, Arthur MW, 2002, pp. 951–976 [91]

However, the aetiologies are not exactly the same, so caution is required in using the 'shared aetiology' argument. For example, Loeber and colleagues (study described above) demonstrated patterns of shared and specific risk factors with different combinations of problem outcomes: [63] They found that 10 of the 35 risk factors they investigated were significant predictors of drug use, and seven of those ten were also significant predictors of delinquency. They concluded:

> most risk factors associated with substance use were nested within the risk factors associated with delinquency, but over half of the risk factors associated with delinquency were not predictive of substance use. (p. 121)

That is, drug use and other problem behaviours have some common and some distinct risk factors.

With an acknowledged degree of commonality in the risk factors, it is logical to suggest that efforts to reduce or prevent antisocial behaviour can contribute to drug prevention, and vice versa. Further, rather than focusing on specific problems, it has been suggested that it is better to promote positive child and youth development so that individuals develop resiliency for a range of problems. [90] [92] However, Catalano and colleagues caution against focusing only on youth development and abandoning specific prevention efforts. [93]

Comoribidity

Degenhardt, Hall and Lynskey reviewed three alternate explanations for the co-occurrence of drug disorders and other mental health disorders: direct causal relationships, indirect causal relationships or common risk factors. [94]

- Direct causal relationships:
    - Mental health disorders can cause drug disorders if people with mental health problems use drugs to alleviate the symptoms of their mental health problem and then develop problematic use as a result of over-use. This is often referred to as the self-medication hypothesis. Degenhardt and colleagues suggested that self-medication might be a factor in drug use, but that it does not appear to be the only factor in the relationship.
    - Drug-use disorders can cause mental health disorders. There is some evidence of depression resulting from alcohol dependence and of cannabis use precipitating schizophrenia in vulnerable individuals.

- Indirect causal relationships can exist when the impacts of one disorder then result in a second disorder. For example, alcohol dependence could lead to job loss, and the subsequent unemployment could lead to depression. There is some evidence for such indirect causal relationships.
- Common risk factors: As discussed above in relation to problem behaviours, drug-use disorders and mental health disorders could share common risk factors. Degenhardt and colleagues reviewed the literature on common risk factors, including neurotransmitter function, genetic factors, individual factors (temperament — neuroticism), and social and environmental factors (for example, social disadvantage, separation/divorce, parental psychiatric illness and family dysfunction).

They concluded that there are no simple causal hypotheses that explain the association between problematic drug use and mental disorders. However, given the convergence of risk factors for both, it appears plausible to hypothesise that the comorbidity is a result of these problems arising from common risk factors and life pathways. [94]

The relationships between different disorders are complex and can depend upon the particular disorder and other factors such as gender. [95] Glantz and Leshner [96] reviewed the research on comordidity and highlighted how the relationship between substance use

and other disorders varies with the mental health disorder. Their findings are summarised below.

- Conduct disorder (CS), antisocial personality disorder (ASP) and bipolar disorder (BP) have been shown to be predictors of subsequent drug abuse, but it is not known whether there is a causal relationship or whether CS and ASP and drug abuse are manifestations of the same underlying mechanisms that arise at different times in the life course. It is likely that CS and ASP at least contribute to the later development of drug abuse. They noted that this is an important relationship because children with these disorders are more likely to be socially estranged and that there is currently no effective way to communicate prosocial attitudes to socially estranged groups.
- Depression might play a role in substance use once drug abuse has been established; it has not been demonstrated to be a predictive antecedent of drug abuse.
- Other psychopathologies that have been found to occur with drug-use disorders, but for which there is no clear relationship, include anxiety, attention deficit hyperactivity disorder (ADHD) and eating disorders.

Glantz and Leshner noted that these relationships raise a number of questions that have not been adequately researched. These include:

- Would successful treatment of the psychopathologies in childhood prevent later drug abuse?
- Can treatment of childhood psychopathologies be modified to reduce the risk of later drug abuse?

Implications

The co-occurrence and (to some degree) shared aetiology of problematic drug use with psychopathology and other problem behaviours have a number of implications. For example, research, policy and interventions relating to drug abuse and dependence can benefit from collaboration with research, policy and interventions concerned with psychopathology and/or other problem behaviours. This does not mean there is nothing unique about the different outcomes, but there is certainly some overlap. Further, problem behaviours such as truancy, being excluded from school, and involvement in crime can be regarded as markers for high risk of drug abuse problems and assist with targeting interventions for the prevention of drug abuse and other problems. [97]

Aetiology

There are a number of qualities of drugs that encourage their use. Drugs produce rewarding effects for users (for example, providing pleasure, mitigating pain), so their use is hardly surprising. In fact, much risk factor research fails to appreciate that drug use is a choice. [97] However, some people use drugs in a risky or harmful manner, and some develop a drug dependency. Psychoactive drugs artificially and strongly activate the brain pathways that direct behaviour toward stimuli that are critical to survival (such as food and water). This effect results in strong motivation to use, even after prolonged periods of abstinence. [51] Consequently, drug dependence is described as a disorder of altered brain function caused by the use of psychoactive drugs. [51] But not all people use drugs in a risky or harmful manner and fewer people progress from use to dependent use. Apart from the psychoactive properties of drugs, what contributes to people using in a manner that is risky or harmful, or to developing drug dependence? This section explores the research on the aetiology of drug abuse.

Risk and protective factors

Aetiological research discusses risk and protective factors for drug abuse. Risk factors identify certain individuals as being more susceptible to an outcome. Protective factors are factors that, in the face of adverse conditions, protect the individual from an adverse outcome.

Risk factors fall into two broad categories: population markers and causal risk factors. Risk factors as population markers identify a group at higher risk of an outcome (such as drug use) due to an association between the risk factor and the outcome. Causal risk factors are risk factors that have been demonstrated (generally through replicated, multivariate longitudinal research studies) to be causally related to the outcome. As described by Macleod and colleagues, [98] it is important to understand the difference between these two types of risk factor because if the risk factor is just a marker and there is no causal relationship, then reducing the risk factor will not reduce the risk of the outcome. For example, Rhodes discussed how age of initiation has been identified as a risk factor for problem drug use and other outcomes, so there have been calls to increase the age of initiation as a public health objective. However, he cited Fergusson and Horwood's longitudinal research which indicated that lower age of initiation is only a marker for other risks such as social disadvantage and greater exposure to drug-using peers. [99] Consequently, Rhodes argued that the focus needs to be placed on the conditions that created lower age of initiation, rather than lower age of initiation per se. [97]

Risk and protective factors for drug abuse

Various reviews of risk and protective factors for drug abuse have been published. [97 100-102] For example, Lloyd reviewed the research on risk factors for problem drug use and concluded that the following factors were risk factors:

- family:
    - having parents or siblings with problem drug use
    - family disruption
    - poor attachment or communication with parents
    - child abuse
- school:
    - low school grades
    - truancy
    - exclusion from school
- childhood conduct disorder
- crime
- mental disorder (in particular, depression and suicidal behaviour during adolescence)
- social deprivation (although he noted that the evidence is limited for this factor)
- a young age of drug-use onset. [101]

In contrast to most reviews, Lloyd described much of the literature on peer influences as 'naïve' and regarded the findings on peer influences as 'equivocal'.

Spooner reviewed the literature on risk factors for adolescent drug abuse and concluded that the following factors were risk factors:

- biological predisposition to drug abuse
- personality traits that reflect a lack of social bonding
- a history of low-quality family management, family communication, family relationships and parental role-modelling
- a history of being abused or neglected
- low socio-economic status
- emotional or psychiatric problems
- significant stressors and/or inadequate coping skills and social supports
- inadequate social skills
- history of associating with drug-using peers
- rejection by prosocial peers due to poor social skills
- a history of low commitment to education
- failure at school
- a history of antisocial behaviour and delinquency
- early initiation to drug use. [102]

The World Health Organization summarised reviews of research on risk and protective factors for drug use at the individual and environmental levels. These factors are presented in Table 4.

Table 4: Risk and protective factors for drug use

Domain	Risk factors	Protective factors
Individual	Genetic disposition	Good coping skills
	Victim of child abuse	Self-efficacy
	Personality disorder	Risk perception
	Family disruption and	Optimism
	dependence problems	Health-related behaviour
	Poor performance at school	Ability to resist peer pressure
	Social deprivation	General health behaviour
	Depression and suicidal behaviour	
Environmental	Drug availability	Economic situation
	Poverty	Situational control
	Social change	Social support
	Peer culture	Social integration
	Occupation	Positive life events
	Cultural norms, attitudes	
	Drug policies	

Source: WHO Alcohol and Public Policy Group, 2004, p. 23 [51]

There is no definitive list of risk and protective factors for drug abuse — the list varies with the review. The aetiological process is complex and our understanding limited. Some issues to note are:

- While many people use drugs, few progress to drug abuse or dependence. Risk factors for initiation of use, continued use, abuse/dependence differ. [102-104] Rhodes lamented the way most risk factor research uses 'ever' use as the outcome variable; few studies delineate the stage of use or the particular pattern of use. [97]
- No single risk factor predicts problematic drug use. Rather it is the number of risk factors, [105] or the balance of the number of negative risk factors relative to the number of protective factors that predicts use. [106]

- Risk factors exist in different domains: individual, family, peer, school, local community, macro environment. These domains interact with each other in a complex web of causation.
- Risk factors can also be situational; for example, features of licensed premises can impact upon levels of violence. [107]
- Risk factors vary across the life course and are cumulative across the life course (discussed in Chapter 2).
- Risk factors vary with historical period. Parker described how: 'we now have a largely normative population consuming alcohol and drugs in ways which twenty years ago would be regarded as highly deviant and "problematic"' (p. 143). [108] Furthermore, Parker noted: 'The conundrum for risk factor analysis is that we can no longer hang the traditional deficit predictors around these young people's necks' (p. 142).

As mentioned above, the development of drug-use behaviours is complex. There are multiple pathways to drug abuse and each set of risk factors can contribute to a different pattern of outcomes. Cicchetti and Rogosch described these patterns as equifinality and multifinality. [109] Specifically:

> 'Equifinality refers to the observation that in any open system a diversity of pathways, including chance events … may lead to the same outcome. Stated differently … the same end state may be reached from a variety of different initial conditions and through different processes …
> The principle of multifinality suggests that any one component may function differently depending on the organization of the system in which it operates … Stated differently, a particular adverse event should not necessarily be seen as leading to the same psychopathological or non-psychopathological outcome in every individual. Likewise, individuals may begin on the same major pathway and, as a function of their subsequent "choices", exhibit very different patterns of adaptation or maladaptation.' (pp. 597–598) [109]

For example, a drug disorder can result from a range of combinations of the risk factors for drug abuse as described above (equifinality); a particular set of risk factors such as difficult temperament and poor parenting might result in alcohol abuse or delinquency or both or neither, depending upon factors and events across time (multifinality).

As noted above, one feature of drug use that distinguishes it from other problem behaviours or mental health problems relates to the psychosocial properties of drugs: drugs are used purposively; for example, to relieve stress and socialise. [3 110 111] This is important in the context of this report because the social environment can:

- shape the meanings of drug use to be psychologically or socially reinforcing, or not
- influence how 'stressful' the environment is
- influence the availability of alternative means of stress reduction, recreation and socialisation, as well as the values placed upon those alternatives.

Such issues will be explored in later chapters.

Social epidemiology, social determinants and structural interventions

In the past decade, interest in the social determinants of health and structural interventions to address health problems has increased.

- **Social determinants** are the 'environmental' or 'societal' factors that influence the health outcomes of populations. [112-114] These include the economic environment, the physical environment and the socio-cultural environment.
- **Social epidemiology** is the study of how societal factors influence the health of populations. [115]
- **Structural interventions** are changes to societal structures that aim to influence the social determinants of health. Societal structures can be government policies, taxation systems, service systems (for example, welfare, education, health, justice), laws and workplace policies.

These are not new concepts. For example, oft-cited origins of social epidemiology include:

- Frederick Engels' study in 1845 of the impacts of individual and area-based indicators of socio-economic status on mortality [116]
- Durkheim's study originally published in 1897 which demonstrated the importance of the social environment on suicide rates. [117]

There are multiple conceptual models to explain how social factors influence health, none of which is entirely satisfactory. However, as Marmot has discussed, a model that incorporated all of the social determinants of health, and their interrelationships over time, would be impossibly complex. [118] Marmot suggested that it is more helpful to take a two-step approach: first, to develop models of causation at different levels, then to integrate the models. A similar approach has been used to write this report. Social determinants of drug use were investigated from a different perspective in each chapter: developmental, social, cultural, economic, and disadvantaged groups. These issues were then drawn together in the final chapter.

While concern with the social determinants of health outcomes has increased substantially, alcohol, tobacco and drug use have rarely been the focus of research attention in this area. With some notable exceptions, for example, work by Galea in the United States of America [104 119] and Rhodes in the United Kingdom, [97 120] the research is limited. Consequently, this report is more speculative than conclusive. However, if this report broadens and deepens the reader's conceptualisation of the aetiology of drug-use problems and how they might be addressed, then it will have achieved a useful purpose. The limitations of earlier conceptualisations of the aetiology of drug-use problems and resulting drug prevention efforts are outlined below.

Limitations of earlier drug prevention efforts

Drug prevention efforts have historically focused upon changing drug-use behaviour by changing individual risk factors such as knowledge, attitudes and skills. [3] Typically, these efforts have mostly targeted adolescents, as this is the age at which most drug-use behaviour commences. The most used setting for drug prevention has been the school, as the vast majority of adolescents can be accessed there. Much of this activity has taken place in isolation from other research disciplines and program areas. This whole approach has been limited for a number of reasons. These are summarised below.

The focus on single risk factors: Programs have tended to be simplistic, on the basis that if a single risk factor can be addressed, then drug use and abuse can be prevented. In particular, drug-prevention programs in the past have tried to increase knowledge about

the dangers of drug use or increase skills to resist drug use. However, drug-use behaviours are the result of a complex interplay of individual and environmental factors that operate across the life span, at multiple levels of the environment (for example, situational, family, local community and national). [102] Changing a single risk factor is unlikely to have a significant and sustained impact on such a complexly determined behaviour. Further, a simplistic approach can backfire. For example, increasing social skills can result in increased drug use if the young person socialises with drug users. [121]

The focus on risk factors: Research has increasingly recognised that some individuals do *not* develop drug-use patterns in spite of exposure to multiple risk factors. There is now interest in investigating those factors that protect individuals from negative outcomes; that is, factors that build resilience, such as positive attachments. [122 123]

The focus on correlation: In the past, simplistic research equated correlation with causation. For example, the association between family structure and drug abuse has been documented in multiple studies. [124-126] However, when other factors such as socio-economic status and family functioning were included in the analyses, family structure was non-significant. [127 128] While family breakdown can contribute to exposure to disadvantages that can contribute to drug abuse, sole-parent families are not inherently harmful.

The focus on the individual: While it is easier to focus upon individuals, to measure individual risk factors and individual behaviour change, it has become increasingly apparent that research needs to focus on the environment that shapes behaviour. [129-131] The limitations of individual-oriented interventions have also been identified with other problem behaviours such as delinquency [60] and in public health in general, [132 133] as marked by the increased interest in 'social epidemiology'. In his Presidential Address to the Society for Community Research and Action, Maton contended that changes in individuals alone or transient changes in proximal or setting environments, without interventions that ultimately impact upon community and societal environments, will not make much of a difference:

> Social environments, not psychological or biological deficits, are the fundamental cause of major social problems. (p. 27) [134]

He emphasised the futility of working only at the micro-environmental level (for example, within families and schools) because of the overriding importance of 'macrosystem dominance'; that is, the primary role of societal systems and structures in causing and sustaining local community problems.

Calls to attend to the role of broader community factors in drug abuse have been made in the past, [135] but these have tended to focus on drug-specific environmental risk factors such as laws and regulations relating to alcohol and other drug use and availability rather than environmental factors that might influence a range of problem outcomes. Also, some research has focused on the family, school and local community, but this has still tended to be in a limited (drug-specific) fashion. For example, Wodarski and Smyth wrote in 1994 that 'growing up in poverty' and 'lack of access to meaningful roles in the community' were among the 'most important factors in predicting adolescent AOD use', yet their discussion of prevention did not address the need to examine these risk factors. [136]

The focus on the school setting: Expectations of school-based drug education have been unrealistically high. While school-based drug education can have some impact, schools cannot undo years of negative family and other environmental influences on children. They can be only one part of a more comprehensive approach to drug prevention. [137]

The focus on adolescence: As drug use tends to be initiated in adolescence, most drug prevention efforts have focused on adolescents. The early years of life are also being increasingly recognised as important for adolescent and adult outcomes. [90 123 138] While interventions for adolescents are essential, efforts also need to be directed towards the earlier years of life.

The focus on single problems: As discussed above, drug abuse behaviours share common antecedents with other problem behaviours such as criminal behaviour, truancy, school drop-out and suicidal behaviour. [61] Research disciplines (for example, psychology, criminology, public health, social work) and programs (crime prevention, mental health promotion and child welfare) have worked in isolation, duplicating effort and scattering limited resources across multiple small programs with minimal impact. Research needs to be interdisciplinary and programs need to be intersectoral so that knowledge and resources can be pooled and used to greater effect. This does not negate the need for research into specific drug-abuse behaviours and interventions to address specific drug problems. However, where commonalities exist, working collaboratively can increase efficiency and enable the pooling of resources to increase effectiveness.

Given the limitations of previous approaches to drug prevention, it is not surprising that some drug-use behaviours and problems have increased. More recently the drugs field has begun to take a broader approach. For example, a report by the Advisory Council on the Misuse of Drugs in the United Kingdom focused on environmental factors contributing to drug-use problems and the need for structural changes to address these factors. This report aims to support expanded thinking and a broader approach to preventing and addressing drug-use problems.

Changes in the societal environment

The social environment is changing in ways that are likely to affect risk factors for drug abuse, particularly in relation to parenting and the socio-economic environment of children. Changes in western societies include demographic, workplace and economic changes. Some of these changes are outlined below.

- Demographic changes [139]

    - increasing divorce rates
    - increasing numbers of one-parent families
    - increasing labour force participation rates of women of child-bearing age
    - increasing joblessness in families
    - changing family structure and formation.

  These changes are placing increased pressure on the ability of parents to raise children.

- Workplace changes [140]

- longer working hours for full-time workers
- growth in part-time and casual jobs, particularly for women and youth
- increased job insecurity
- increased competition for work
- increased job demands.

Increased work demands mean that children spend less time with parents and more time in out-of-home care. Further, work-related stress can affect partner relationships and stress in the home, which can have an impact on parenting behaviour, which can then affect children's behaviour. [140] For example, a study by Sallinen and colleagues investigated the relationship between parental work and adolescents' well-being in Finland and found that adolescents were sensitive to their parents bringing stress home from work (for example, being tired and in a bad mood after work), and this affected adolescent well-being. [141] The extent of this 'negative spill-over' from fathers' jobs was associated with more conflicts between fathers and adolescent children and more negative perceptions of school by adolescents.

- Economic changes

  - increased income inequality: Wealth is increasing in the world, but gaps between the rich and the poor are also increasing. Income inequality has been associated with a range of negative outcomes, at least in some contexts. [142] Australia's social gradient is getting steeper, and there is concern that this is having an effect on children. [143]
  - child poverty: Between 10 per cent and 25 per cent of children in Australia (depending on the criteria used) lived in poverty in 2000 and child poverty appears to have increased. [144] Poverty is one of the most consistent indicators of poorer child outcomes. [123] [143]

Life for young people has changed. For example, in Australia between 1984 and 2000, the percentage of full-time tertiary students who worked part-time increased (from 51 per cent to 74 per cent) and the number of hours they worked also increased(from an average of 5 hours per week to 15 hours per week during semester). [145] In their profile of young Australians, Pitman and colleagues described how technological change and economic restructuring have affected youth employment:

> Others, particularly young men, are casualties of technological change and/or economic restructuring. More than half the 1.9 million new jobs created since 1986 have been in occupations utilising mental skills, i.e. professional and para-professional jobs. Apart from this, the predominant growth has been in lower skilled service jobs such as shop assistants and hospitality workers which are mainly filled by female workers. Employment in skilled trades and manual jobs, which were traditionally filled by males, has shrunk as a proportion of all jobs. The growth of part-time employment and casual jobs at the expense of full-time employment has also impacted on young people's capacity to fully participate in work. Since 1995, full-time jobs for young people 15 to 19 years declined by 6.9% and, for 20 to 24 year olds, by 15.2%. (p. 35) [145]

Walker and Henderson described how the combination of parents working, the town planning policies of the 1970s that separated residential areas from commercial and industrial areas, school timetables that finish two hours before the end of standard work hours, and increasing use of user-pay principles for educational and recreational facilities have left young people increasingly bored and unsupervised. [146]

These are just a few examples of how society is undergoing rapid change and how these changes appear to be impacting on risk factors for drug abuse. This report will explore the relationship between such social changes and drug use.

Problems with the current system

Given the evidence that social factors contribute to health and well-being, and that society is undergoing rapid change, we must ask whether our public system is coping with the change. The public system can act as an important mediator of the impacts of social changes.

Problems have been identified with the current system. For example, government departments (education, health, justice etcetera) tend to be structured vertically into different departments and work as 'silos'. [84 90 129 138 147] This means that planning and implementation of policies and programs are undertaken *within* rather than *across* government departments, thus constituting a barrier to whole-of-government approaches to issues such as drug abuse. This is a significant problem for the drugs field, given that drug abuse is so closely linked to other health and social outcomes.

Concerns have also been raised about the focus of governments on economic growth rather than population development. [90] The assumption of this focus is that the benefits of a wealthy country will result in benefits for the population in terms of employment, health and welfare. However, with policies that fail to redistribute this wealth and that emphasise a user-pays system for essential services such as childcare, education and health, most of the benefit of economic growth is going to the already wealthy portion of society, with minimal benefit to the already disadvantaged. [148] This has resulted in an increased disparity between the richest segment of the population and the poorest segment of the population, and greater health and welfare differentials in the population. [90]

One area for investment in population development is child and youth development. There is a need for greater spending on children in the early years of life, when it is most needed and beneficial. [149 150] In particular, a coordinated system of good-quality early childcare and education can provide benefits for working parents, and for parents who need help (or at least respite), in providing a stimulating and positive environment for early child development. [140] Press and Hayes' review of early childhood education and care in Australia identified the need for improvements to childcare services in the areas of availability, quality and coordination. [151] They concluded:

> Despite the large scale of Australia's Early Childhood Education and Care (ECEC) provision, too many Australian families still do not have access to appropriate ECEC options. Children still may not experience smooth transitions between different ECEC settings. Families with additional needs may not have these appropriately met. Ensuring quality in the face of diversity and change also represents a major challenge, especially in times of economic constraint and an increasing social divide. (p. 62) [151]

Concerns have also been raised about the private school system and fees for tertiary education exacerbating social and economic divisions and downgrading public education.[152 153]

Systemic (or 'structural') problems such as these are further discussed throughout this report.

THIS REPORT

The aim of this report is to describe research and debate relating to social determinants of problematic drug use and to consider the implications for government. The intended readership is broad, including postgraduate students and people working in relevant fields such as drug prevention, health promotion, drug treatment, policy and research. The approach used to produce the report was to draw together a broad range of literature relevant to understanding societal and developmental influences on the aetiology, prevention and treatment of problematic drug use. With such a broad range, it was impossible to be comprehensive or to deal with any issue in depth. References are provided for readers who want to know more about particular issues. Rather than being an encyclopaedia on the structural determinants of drug use, this report provides an overview of the research relating to this area. Each person who reads this report will no doubt have their own examples to add to any given topic presented in the report. That is, the report aims to prompt thought rather than to provide a blueprint for action.

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CHAPTER 2: HUMAN DEVELOPMENT AND DRUG USE

Human development

Human development is the result of a complex interplay of biology and experience. [1 2] While genetic factors are important for child and adult outcomes, this chapter focuses primarily on the environmental contributors to human development.

Over the past half-century, our knowledge of human development has grown, but our understanding has been influenced by contemporary beliefs in each historical era. As summarised by Rutter, during the 1950s to 1970s, there was an uncritical acceptance of the lasting and irreversible effects of early childhood experiences and social disadvantage. [1] During the 1980s and early 1990s, a swing to a denial of environmental effects occurred. Rutter laments that today there is still a lack of differentiation between risk indicators and risk mechanisms and we still do not know why psychosocial disorders have increased. He suggests that, as these changes occurred over such a short period, they must be due to environmental (rather than genetic) changes.

Much of the research on human development focuses on mental health outcomes [3-5] or delinquency behaviour. [6-10]

This section summarises concepts of human development across different stages of life, then presents research that focuses on how drug-use behaviours are shaped across the life course. A selection of themes that traverse the stages of life and are relevant to the aetiology of drug-use behaviours are then briefly discussed: resilience, stress and attachment. This chapter concludes with consideration of some of the structures that can have an impact on human development and drug use.

Human development: the early years

In recent years, awareness of the importance of the first years of life for the developing child has increased. [11 12] As Hertzman noted:

> The idea that early childhood experiences have long-term implications is not new. What is new, however, is the emerging understanding of how early childhood experiences can influence biology of the developing child in ways that can influence health, well-being and competence decades later. The knowledge base in this area is exploding. (p. 9) [13]

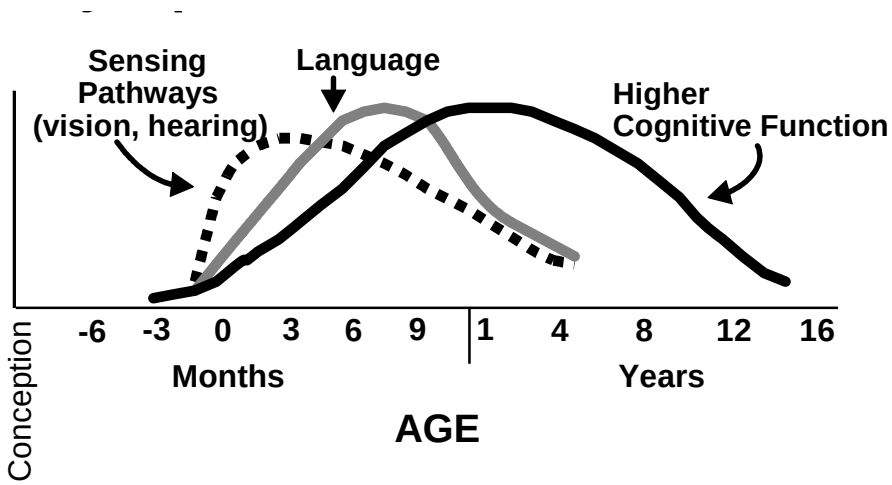
In a report to the Ontario Government in 2002, McCain and Mustard described how new evidence from a range of academic disciplines and research methods reaffirmed that experience-based brain development in the early years of life, including the *in utero* period, affects the following outcomes throughout life:

- learning: literacy, numeracy, academic achievement
- mental health and behaviour: antisocial behaviour, violence, drug and alcohol abuse, smoking

- physical health: coronary heart disease, blood pressure, type II diabetes, immune pathways, obesity. [14]

In the early development of the brain, there is an initial over-production of neurons and synapses, which are later selectively pruned or sculpted. [1 15] This process is affected by environmental influences. There are sensitive periods for development during which children's brains need appropriate stimulation to establish the neural pathways (Figure 1). Many of the critical periods for brain development have occurred by the age of six. Evidence indicates that children who do not receive the nutrition and stimulation necessary for development in the earliest months and years will have great difficulty overcoming these deficits later in life. Such children are more likely to develop learning, behavioural or emotional problems in later life.

Figure 1: Synapse formation



Source: The Founders Network www.founders.net/fn/slides.nsf/cl/fn-slides-01-003

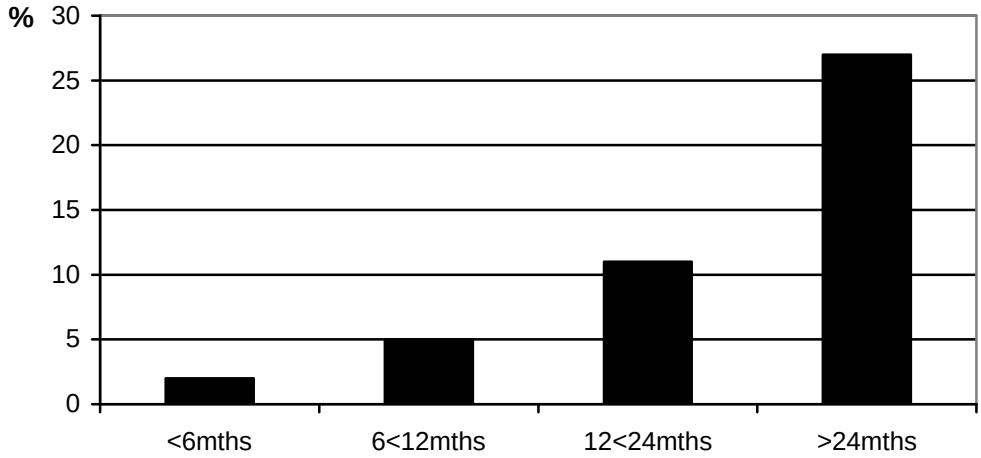
Research has shown a relationship between the 'stress pathway' and behaviour, learning and health. [14] Events during the prenatal period and the early years can affect the development of this pathway and influence neural responses to stress for the rest of the child's life. This research could explain why children who experience early neglect or abuse show an increased risk in childhood and adult life of mental health problems such as depression, antisocial behaviour, drug abuse and learning difficulties.

An ongoing study of Romanian children who were severely deprived in early childhood and then adopted into homes in the United Kingdom provides strong evidence of early biological programming or neural damage stemming from institutional deprivation. For example, when the children first joined their families, 24 per cent of the adoptees injured themselves. Only one child from the comparison group of adoptees, who had been born in the United Kingdom, behaved this way. A dose–response relationship was evident with self-injury at age six associated with the length of time that the adoptee had been institutionalised. [16] (Figure 2) However, as Rutter and O'Connor noted, some heterogeneity in behaviour still occurred, suggesting that some resilience exists, even after severe deprivation:

> The results at 6 years of age showed substantial normal cognitive and social functioning after the provision of family rearing but also major persistent deficits

in a substantial minority. The pattern of findings suggests some form of early biological programming or neural damage stemming from institutional deprivation, but the heterogeneity in outcome indicates that the effects are not deterministic. (p. 81) [17]

Figure 2: Self-injury at age six: children from Romanian institutions by age on joining UK family (n=111)



Source: Beckett C, Bredenkamp D, Castle J, Groothues C, O'Connor TG, Rutter M, 2002, pp. 297–303 [16]

It is important not to overstate the notion of 'critical' periods. [1] Humans retain plasticity —- the ability to learn and change — beyond early childhood, and are capable of great resilience. [18] As the United States National Research Council and the Institute of Medicine concluded:

> What happens during the first months and years of life matters a lot, not because this period of development provides an indelible blueprint for adult well-being, but because it sets either a sturdy or a fragile stage for what follows. [12]

Our ability to promote the healthy development of children rests on an understanding of the complex process of human development. Rutter reported that developmental research has consistently identified that child psychopathology has been associated with environments characterised by:

- discord and conflict, particularly involving negativity toward a child
- a lack of individualised personal care
- a lack of reciprocal conversation and play
- a negative social ethos or a social group that fosters maladaptive behaviour.

He noted that these environments involve the family, peers and the broader community. [1]

Similarly, the National Research Council and Institute of Medicine listed ten core concepts of child development: [12]

1. Human development is shaped by a dynamic and continuous interaction between biology and experience.

2. Culture influences every aspect of human development and is reflected in child-rearing beliefs and practices designed to promote healthy adaptation.
3. The growth of self-regulation is a cornerstone of early childhood development that cuts across all domains of development.
4. Children are active participants in their own development, reflecting the intrinsic human drive to explore and master one's environment.
5. Human relationships, and the effects of relationships on relationships, are the building blocks of healthy development.
6. The broad range of individual differences among young children often makes it difficult to distinguish normal variations and maturational delays from transient disorders and persistent impairments.
7. The development of children unfolds along individual pathways whose trajectories are characterised by continuities and discontinuities, as well as by a series of significant transitions.
8. Human development is shaped by the ongoing interplay between sources of vulnerability and sources of resilience.
9. The timing of early experiences can matter, but, more often than not, the developing child remains vulnerable to risks and open to protective influences throughout the early years of life and into adulthood.
10. The course of development can be altered in early childhood by effective interventions that change the balance between risk and protection, thereby shifting the odds in favour of more adaptive outcomes.

Perhaps worth highlighting in the context of drug use is point (3) above: the development of self-regulation. As discussed by Culbertson, Newman and Willis:

> The ultimate goal of self-regulation is that children will learn to modulate their emotional and behavioural responses to events in their environment (especially stressful events); delay their gratification; remain calm and focused; realise that their behaviour, thoughts and feelings can be related to consequences; and bring their behaviour into conformity with the rules of a specific environment or context. These goals are typically mastered developmentally by the age of 4 years. (p. 750) [19]

Benefits of promoting early childhood development

As noted above, research suggests that good nutrition, nurturing and responsive care in the first years of life can improve outcomes for children's learning, behaviour, and physical and mental health throughout life. [15] In fact, promoting early childhood development provides multiple benefits in the short term and the long term, for children, their families and the broader society. Van der Gaag reviewed such evidence for a World Bank Conference in 2002 and described how early child development contributes to individual and societal development via four critical pathways: education, health, social capital and equality. [20] These positive outcomes are summarised in **Table 1.** Van der Gaag noted that, while the evidence for the social capital pathway is currently suggestive rather than strong, the evidence for the other three pathways is strong.

Table 1: Summary of early childhood development (ECD) benefits for children, adults and society

Benefits	Pathways linking early childhood development to human development			
	Education	**Health**	**Social capital**	**Equality**
For children (immediate)	Higher intelligence, improved practical reasoning, eye and hand coordination, hearing and speech; reading readiness, improved school performance; less grade repetition and drop-out; increased schooling	Less morbidity, mortality, malnutrition, stunting, child abuse; better hygiene and health care	Higher self-concept; more socially adjusted; less aggressive; more cooperative; better behaviour in groups; increased acceptance of instructions	Reduced disadvantages of poverty; improved nutritional status, cognitive and social development and health
For adults (long-term)	Higher productivity; increased success (better jobs, higher incomes); improved childcare and family health; greater economic well-being	Improved height and weight; enhanced cognitive development; less infections and chronic diseases	Higher self-esteem; improved social competence, motivation, acceptance of norms and values; less delinquency and criminal behaviour	Equality of opportunity, education, health and income
For society	Greater social cohesion; less poverty and crime; lower fertility rates; increased adoption of new technologies; improved democratic processes; higher economic growth	Higher productivity; less absenteeism; higher incomes	Improved utilisation of social capital; enhanced social values	Reduced poverty and crime; better societal health; increased social justice; higher sustainable economic growth

Source: van der Gaag J, 2002, p. 73 [20]

Similarly, Belfield reviewed early childhood programs that aimed to improve educational outcomes and calculated cost-savings in the range of $2,591–$9,547 per child. The following benefits were observed for the short, medium and long term:

Short term:

For children:

- enhanced academic achievement
- improved health/nutrition
- increased well-being / less abuse

For parents/families:

- childcare time free for parent

For society/economy:

- income tax revenues from parents

Medium term:

For society/economy:

- greater school system efficiency:
    - reduction in special education
    - reduction of grade repetition
    - higher student learning productivity
- reduction in abuse/neglect
- lower reliance on public health care

Long term:

For children:

- higher likelihood of graduation/ college enrolment
- higher wages/employment probability
- lower teen-pregnancy/delinquency

For society/economy:

- 'sound basic education'
- increased income tax revenues
- lower welfare dependence
- reductions in delinquency/crime

Carneiro and Heckman, from the University of Chicago, working with the Forschungsinstitut zur Zukunft der Arbeit (Institute for the Study of Labour) in Bonn, reviewed alternative policies for promoting skill formation at different stages of the life cycle. [21] They concluded that investments early in a child's life are more cost-effective than remedial interventions later in a child's life:

> We demonstrate the importance of both cognitive and non-cognitive skills that are formed early in the life cycle in accounting for racial, ethnic and family background gaps in schooling and other dimensions of socioeconomic success. Most of the gaps in college attendance and delay are determined by early family factors. Children from better families and with high ability earn higher returns to schooling … The evidence points to a high return to early interventions and a low return to remedial or compensatory interventions later in the life cycle. Skill and ability beget future skill and ability. (p. 1) [21]

These reviews did not list drug prevention in their overviews of the benefits of early child development, but they did mention delinquency and crime. Given the shared aetiology and co-occurrence of drug abuse with delinquency/crime (see Chapter 1), the absence of drug use in the overviews is likely to be due to a lack of drug-use measures in the research, rather than a lack of relationship. For example, as concluded at the World Bank Conference on Investing in Children, the impacts of early child development on school and employment outcomes can break intergenerational cycles of poverty and other problems among disadvantaged families and communities, [22] and this is likely to reduce problematic drug use.

In summary, the early years are important for human development and problems in those years can have repercussions in later life. Promoting healthy child development is reportedly cost-effective in terms of a range of outcomes and is likely to contribute to the prevention of drug abuse.

Human development: the middle years

While substantial attention has been directed to the early years, and to adolescence, less attention has been paid to the years in between, when children are in infants and primary schools. Yet, as the Carnegie Council on Adolescent Development noted, this is an important period in child development, and it is a time for detecting and addressing any academic, social or other behavioural problems before they become firmly entrenched:

> The years from three to ten are a crucial age span in a young person's life, when a firm foundation is laid for healthy development and lifelong learning. During these seven years, children make great leaps in cognition, language acquisition and reasoning, corresponding with dramatic neurological changes. They develop greater facility in intellectual problem solving and abstract thinking. Their store of knowledge swells, their attention span stretches, their capacity for reflection increases. They become more proficient in their oral and written communication and better able to relate ideas and feelings to their peers. They also develop greater capability to regulate their own behavior and resolve conflict peacefully. For most children in this age period, it is not too late to overcome earlier difficulties; nor is it too early to prepare for the challenges of early adolescence and middle school. (Executive summary) [23]

Similarly, Culbertson, Newman and Willis described how the period between ages six and eleven years is a time when significant cognitive and physical advances are made and developmental tasks include 'acquisition of symbol-associative learning, rule-based play, increased awareness of social expectations, and mastery of more complex cognitive and academic tasks' (pp. 756–757). [19] It is the time when some problems can first be identified, including learning disabilities, attention deficit hyperactivity disorder, oppositional defiant disorder, and anxiety problems. [19]

Human development: adolescence

While the early years have suffered neglect in the past, there is now such attention on the early years that each and every year of a child's development is considered to be important. [24] The adolescent years are also important for many reasons, not least of which is that these are the years during which experimentation with drugs begins and the brain is still developing. [25-28] Leffert and Petersen described the patterns of development during adolescence. [29] The main changes identified by their overview are outlined below:

- major hormonal changes that lead to puberty
- physical changes; for example, the development of breasts (girls) or facial hair (boys)
- increases in cognitive competencies, including:
    - abstract reasoning
    - decision-making ability — although decision-making abilities are not always sufficient for meeting the novel and sometimes emotionally charged situations faced during adolescence, such as sexual or drug experimentation
- developments in social relationships
    - family relationships: while there is a decrease in parental supervision as adolescents move towards autonomy, parents continue to be important sources of support
    - peer relationships: relative to friendships in middle-childhood, friendships in adolescence are more intimate, with more sharing of thoughts, feelings and activities; and are conducted under less parental supervision. During early adolescence, adolescents tend to socialise with small groups comprised of same-sex peers. During mid-adolescence, adolescents are more likely to socialise with larger groups united by a common interest. Members of these groups tend to share similar values as a result of both peer influence and group selection. That is, adolescents tend to choose groups that have compatible values in the first place.
    - sexual relationships tend to commence during adolescence.
- development of social and psychological autonomy
- increase in many psychosocial disorders, including drug abuse, crime, depression, suicidality and eating disorders
- important role transitions; for example, first sexual relationships, driving a car, and first job
- two critical tasks need to be accomplished:
    - temper the internal and external stressors of this period, such as school transition
    - prepare for life as an adult.

Siegel and Scovill have noted that adolescents have been somewhat demonised, and unfairly so:

> Some teenagers, on occasion, do behave in a way that puts themselves and others at risk. But, given the numbers, they seem not to deserve the blanket, negative treatment they receive. (p. 767) [30]

As noted in Chapter 1, much of the 'antisocial' behaviour of adolescents is adolescent-limited [31] and is symptomatic of adolescents seeking appropriate pathways to achieving developmental tasks. [30] Moffitt described adolescent-limited delinquency as a by-product of modernisation:

> The earlier age of puberty and the extension of the period of childhood are generally overlooked as by-products of modernization, but they have important implications for the experience of youths. The years between 1938 and 1983 … witnessed an incremental displacement of sons by their mothers as the family's secondary breadwinners. The shift of work away from farms, trades and small family businesses to factories and service industries has stopped adolescents from sharing the daily lives of older relatives. As Anderson has observed, fewer and fewer "old heads" are initiating young protégés into the adult world. Teens are less well-integrated with adults than ever before. What has emerged is an age-bounded ghetto from within which it seems advantageous to mimic deviant behavior. (p. 691) [31]

Connectedness to a significant adult mentor, prosocial peer groups and environments that 'increase the probability that teenagers will be able to negotiate successfully the tasks involved in becoming a healthy and productive adult' (p. 785) [30] are important for encouraging healthier outcomes for adolescents. [30] For example, Siegel and Scovill described smoking and drinking as means of adolescents meeting the developmental need of transition to adulthood. They suggested that more formalised markers to acknowledge transitions be created. Further, Siegel and Scovill noted the need for 'safety nets' for adolescents who fail; for example, for those who drop out of school. For such youth, there need to be alternative environments in which they can develop commitment to societal values and be socially rewarded for participating in non-delinquent activities.

Leffert and Petersen described how major changes in the meaning of adolescence have occurred during the twentieth century. [29] The changes described by Leffert and Peterson include:

- The social construction of adolescence changed; for example, youth cultures have developed and legislation relating to the legal age to drink alcohol, to vote, to have sex, to drive, to leave school and to leave home has changed.
- Changes in the ages of adolescent transitions have emerged. For example, there has been a reduction in the age of puberty, an increase in the average age of completing education, and the age of initiation of sexual relationships has decreased.
- The pattern of transitions has changed:

  > at the turn of the century in the UK most young people left school and started work at 14, some years *before* puberty, and some dozen years before marriage. By contrast, nowadays, most people do not leave school until well *after* puberty and many start cohabitation before completing tertiary education. (p. 85) [29]

- Adolescents in Western Europe, the United States of America and Japan are taller and weigh more than their counterparts100 years ago.
- Adolescents experience greater exposure to stressors such as parental divorce, step-families, being a victim of crime, and drugs.

Benefits of investing in adolescents

While the benefits of investing in early childhood have been well articulated in the past decade, this should not be an excuse for neglecting investment in adolescents. Burt, for example, presented information from the Carnegie Council on Adolescent Development to argue for investment in adolescents. While the costs presented are for the United States of America, the points are relevant to the Australian context:

- Each year's class of high school drop-outs will, over their lifetimes, cost the nation $260 billion in lost earnings and forgone taxes.
- Over a lifetime, the average high school drop-out will earn $230,000 less than a high school graduate and contribute $70,000 less in taxes.
- Each added year of secondary education reduces the probability of public welfare dependence in adulthood by 35 per cent (with associated reductions in public costs).
- Each year, the United States spends roughly $20 billion in payments for income maintenance, health care and nutrition to support families begun by teenagers (p. 143). [24]

Looking specifically at youth drug abuse and associated crime, Burt cited research by Cohen that provided 'an overall estimate of the "monetary value of saving a high risk youth" of $1.5 to $2.0 million' (p. 146). [24] In another paper, Burt and colleagues explored the costs and benefits of various policy choices relating to investing in adolescents. [32] They investigated the pay-offs of interventions that reduce risk profiles and/or increase resiliency factors for a range of negative and positive outcomes for youths and the community. Their discussion and models illustrated how investing in youth is not about single interventions, but how a range of risk reduction and youth development interventions can have enduring and multiple benefits for youth and society. Their model has been used by the Common Solutions Project in Victoria to explore how different sectors can work together to improve outcomes for young people and the community. [33]

At this stage of life, adolescents who are not faring well might be depressed, suicidal, have dropped out of school, be unemployed, smoking cigarettes, using alcohol and other drugs in a risky manner or be drug-dependent. What does society do when these problems occur? Do we have adequate mental health services, drug-treatment programs for adolescents, support for parents in crisis, intensive support for adolescents who come into contact with the police and the juvenile justice system? From the rates and trends of such problems presented in Chapter 1 and from the author's personal experience working with a drug-treatment program[a] for adolescents, many of whom were involved with the juvenile justice system, it is apparent that we are not doing enough when things go wrong.

[a] The Ted Noffs Foundation

Human development: transition to adulthood

Arnett has argued that the period of 'emerging' adulthood (around 18–25 years) be considered a distinct developmental period marked with, for example, new freedom and independent role exploration. [34] He noted how demographic and social changes in the past half-century have contributed to making 'the late teens and early twenties not simply a brief period of transition into adult roles but a distinct period of the life course, characterised by change and exploration of possible life directions' (p. 469). Arnett presented survey data in which nearly one-third of the sample in their late twenties and early thirties reported that they did not feel that their transition to adulthood was complete. [34]

Young people in their early twenties need support to achieve developmental transitions to adulthood. Furlong has described how life has changed for young people since the mid-twentieth century, how young people face greater risk and uncertainty than in the past, and how they now risk being lost in the transition from school to work. [35 36] He described how young people are staying in education for longer periods of time, post-secondary education is experienced by young people from a broader range of social positions, and transitions between education and employment are no longer linear as young people combine work and education or return to study after a period in employment. [36] These changes have contributed to greater commonality in the experience of young people (rather than class-based segregation), but 'in a flexible, de-regulated, labour market there are no guaranteed rewards for any investment in qualifications' (p. 132). [36] Life as a young adult in modern times, therefore, is 'marked by discontinuities, uncertainties and backtracking' (p. 132). [36] In the context of modern values relating to individual responsibility, those who do not successfully manage this transition are blamed, and blame themselves, for their failure. [35]

Human development: adulthood

Geronimus has argued for the importance of not neglecting the needs of adults (particularly in economically disadvantaged areas). Adults are essential to the vitality of families and communities, play critical social roles as economic providers and caretakers, and shape the expectations of youth and the propensity of youth to engage in risk taking. [37] Adults who are not managing well might be depressed, unemployed, homeless, socially isolated, involved in crime, or drug-dependent. Further, these negative outcomes tend to be concentrated. For example, 41 per cent of heroin users in the Australian Treatment Outcome Study had a prison history, most were unemployed and had mental health problems. [38 39] The same question applies as asked above in relation to adolescents: What do we do to assist adults who are not managing well? Society tends to blame individuals for their own demise and be reluctant to help those who have failed to achieve. Drug-dependent people are marginalised. Those who end up in prison are incarcerated to protect society and to punish the offender, but inadequate effort is made to help offenders start a new life. Considering the high rates of drug problems among people in the criminal justice system, prisons represent an opportunity to assist drug-dependent people. The relationship between drug abuse and recidivism adds to the need to address substance-use issues among prisoners. [40 41]

Overview of developmental tasks

Homel and colleagues summarised the developmental tasks of each developmental phase, and presented the risk factors for crime in each stage (Table 2). These risk factors

are also relevant for conceptualising the development of drug-use behaviours, although specific research in this area is presented in the next section of this chapter.

Table 2: Developmental phases, tasks and risk factors

Developmental phase	Developmental tasks	Risk factors for criminal behaviour
Prenatal/perinatal	Physical and neurological development	Parental drug abuse Adolescent pregnancy Inadequate prenatal care Birth injury Prematurity
TRANSITION TO PARENTHOOD		
Infancy	Affect regulation Attachment Developing autonomy Sense of self	Disturbances of attachment Inappropriate parenting Social isolation Inappropriate behaviour development
TRANSITION TO PRESCHOOL		
Preschool	Separation from mother Preparation for school Socialisation for transition Peer relationships	Inappropriate parenting Problem behaviours Peer difficulties Impulsivity and inattention
TRANSITION TO SCHOOL		
School	Adaptation to school Peer relationships Experiences of success and failure	School failure Lack of parental monitoring Inconsistent discipline Peer rejection
TRANSITION TO HIGH SCHOOL		
Adolescence	Defining identity Intimate relationships Developing value system Growth of autonomy in a context of peer conformity	Teenage pregnancy Risk-taking behaviour Unemployment Antisocial peers Lack of parental support
TRANSITION TO WORK AND ADULT RELATIONSHIPS		
Adulthood	Adult roles and responsibilities	Unemployment Poverty Homelessness Social isolation

Source: Adapted from *Pathways to prevention: developmental and early intervention approaches to crime in Australia*, 1999, p. 134 [42]

Another useful summary of human development is provided by Silburn. [43] Silburn modelled the pathways to poor outcomes and pathways to resilience (Figures 3 and 4). These figures show how drug-use behaviours and other problematic outcomes in adolescence are shaped by factors that commence at conception.

Figure 3: Pathways to poor outcomes

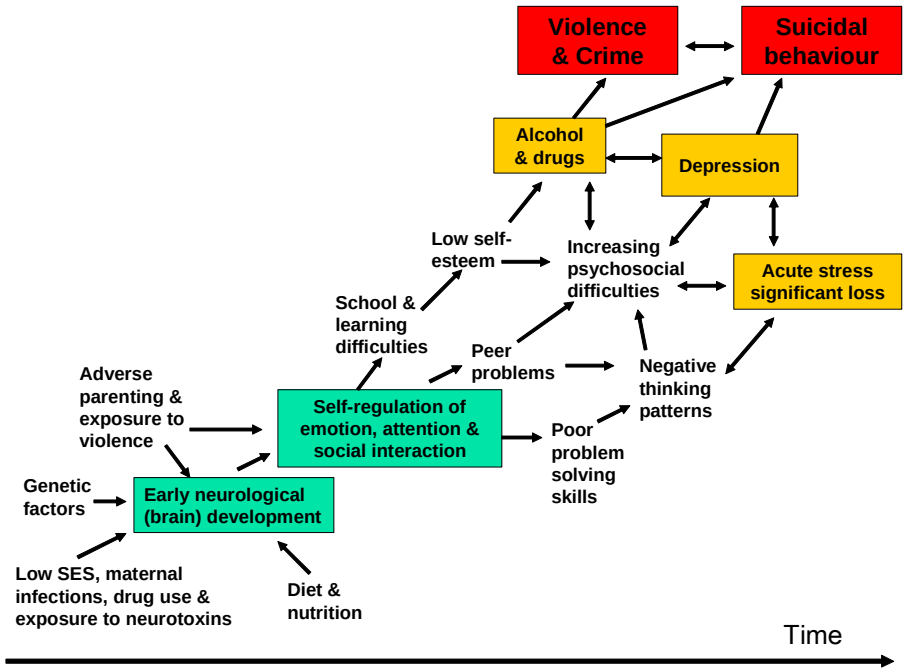
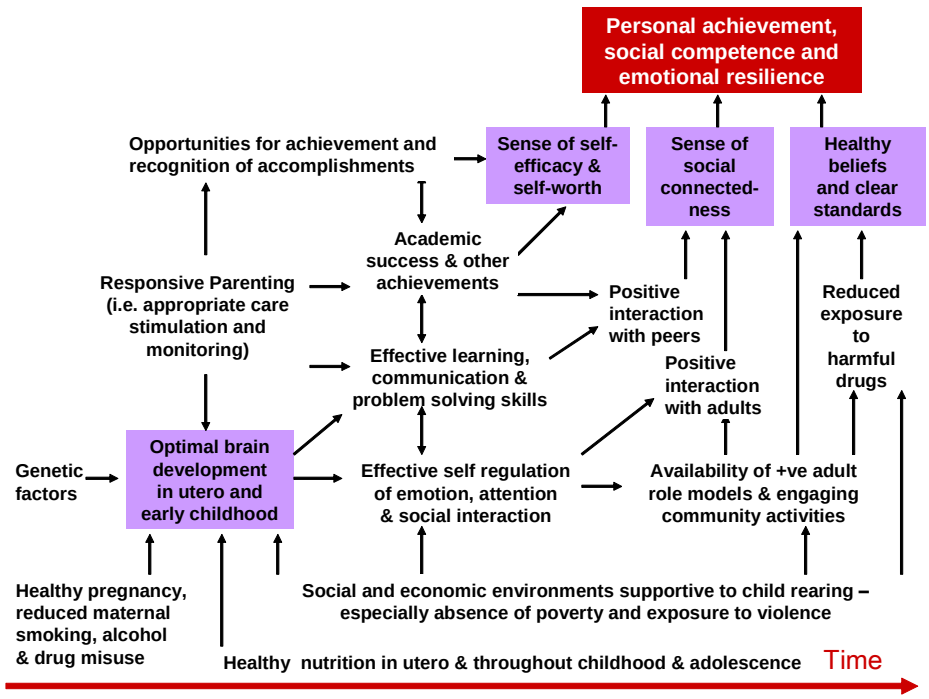


Figure 4: Pathways to resilience



Source: Silburn S, 2003 [43]

Trends in meeting developmental needs

The section above outlines how historical trends have impacted upon human development. Siegel and Scovill argued that children's and adolescents' developmental needs are not met as well today as they used to be, as a result of adolescents being raised separately from adults:

> We contend that children's and adolescents' basic developmental needs are getting met less well now than before World War I and World War II. At a minimum, today's adolescents seem to be experiencing less connectedness with their families and the adult society. Historically, children were raised almost exclusively within a family or community context. Adolescents had adult mentors as they served in apprenticeships to learn their trade. Such an environment may have promoted closer, personal relationships between teenagers and adults and served to make adults the (sic) their official, socially sanctioned role models. Now there is less adult–adolescent interaction. As a result of the colonization of teenagers that occurred earlier in the century, teenagers spend less time with adults than ever before. Mentoring and apprenticeships as formal institutions for introducing teenagers into the adult world are virtually absent. Further, we fail to (a) articulate clearly our goals for "success" and (b) establish clear trajectories for teenagers to negotiate successfully entry into the adult world. Currently, schools and other large institutions are expected to take the role once filled by parents, individual adults, and neighborhood clubs and facilities. The ready availability of firearms, the omni-presence of TV and its icons, instantaneous distal communication via chatrooms on the internet, huge shopping malls, enormous high schools with high teacher-to-student ratio classrooms, and other changes in the last 50 years undoubtedly have contributed to a general sense of disconnectedness by teenagers. (pp. 781–782) [30]

In summary, human development is a complex process, comprising a series of transitions and developmental tasks that can be hindered or aided by the environment (family, childcare, school, the workplace, the local community). Current social changes present challenges to positive human development. For example, the loss of opportunities for interaction between adults and adolescents, and the risks and uncertainties of the modern world, appear to be risk factors for development.

Developmental perspectives of drug use

Overview

In this section, we have summarised research describing how drug-use behaviours develop over the life course. By way of overview, Tarter traced the aetiology of drug abuse from conception, identifying how specific risk factors are salient at different times of life and how earlier factors set the scene for the development of further risk of drug abuse (Table 3). [44]

Table 3: Development of drug abuse from gestation to adolescence

Period of life	Risk factors	Impact of risk factor	Exacerbating factors
Gestation	Drug use in pregnancy	Induce tolerance Disrupt neuroendocrine system development Neurological injury	More likely among low SES mothers
Neonatal and infancy	Difficult temperament	Impede parent–child bonding ↓ Increase likelihood of neglect ↓ Disengagement from family influence ↓ Increased unsupervised behaviour and opportunities for affiliation with socially deviant children	Deficient or neglectful parenting which is more likely among low SES parents
Preschool	Externalising (oppositional defiant disorder, conduct disorder, hyperactivity disorder) and internalising (anxiety, depression) disturbances	Non-compliance with adult expectations ↓ rebelliousness and conduct problems	
Primary school	Inability to regulate emotions and behaviour leading to failure to adjust to school	Social maladjustment Rejection by normative behaving peers Deficient academic performance ↓ negative self-perception	Cognitive limitations Inadequate parental supervision, rule setting and monitoring Weak parent–child attachment
High school	Exposure to drugs and drug-using social contexts	Drug use	Absence of adult supervision Job (money) Belief that drug use is normative Early maturation

Source: Tarter RE, 2002, pp. 171–191 [44]

In this report, we are particularly interested in how social factors influence the development of drug-use behaviours. For example, if adult supervision is a risk or

exacerbating factor, how do social structures influence the ability of parents to supervise their children?

Genetics

There is a wealth of research on the influence of genetic predisposition on drug-use behaviours. [45-51] The World Health Organization reviewed the literature and described how drug dependence appears to be caused by the interaction of several genes with environmental factors:

> Thus, exposure to psychoactive substances could have a much greater effect on somebody who carries a genetic vulnerability to substance dependence, than on someone who does not. (p. 23) [52]

Further, genetic differences appear to influence a number of aspects of drug use. These include the effects of drug use (including the subjective effects of pleasure), the toxicity of a drug (for example, overdose and chronic health effects), the intensity of psychoactive effects of a given formulation and dose of a drug, and the development of tolerance, withdrawal and craving.

Drug use in pregnancy

The womb is the first environment to which a person is exposed, and the first environment that can influence drug use in later life. One particular risk factor for later drug use is maternal use of alcohol, [53 54] tobacco [55] and/or other drugs during pregnancy. [56] Maughan and colleagues analysed data from a study of 1116 twins in Britain, and concluded that the impacts of drug use during pregnancy on adolescent outcomes are difficult to isolate from other factors. This difficulty results from the finding that children of women who smoke or use drugs during pregnancy also tend to be exposed to a range of other risk factors such as low socio-economic status. [57]

Drug use and early childhood experiences

Substantial research evidence demonstrates that adverse childhood experiences have detrimental impacts on child development and can contribute to later drug use. [58-61] The impact can be due to, for example, the impacts on the moral development of the child (Cicchetti 2004) and impacts on (exhaustion or desensitisation of) the child's stress response systems. [62-65]

Drug use and the middle years

The pre-adolescent period is important for the expression of mental health and other problems and the initiation of drug-use behaviours. Behaviour during these years (for example, early drug use and behavioural under-control) is highly predictive of later drug abuse. [66-70] Feinstein and Bynner analysed data from the United Kingdom Birth Cohort Study of people who were born in 1970 and then resurveyed at ages 5, 10, 16, 26 and 30 (N=11,200). [71] The study investigated how continuities and discontinuities in cognitive performance and socio-economic status at ages 5 and 10 predicted adult income, educational success, household 'worklessness', criminality, parenthood during adolescence, smoking and depression. The authors found that cognitive scores at age 5 predicted adult outcomes (supporting the importance of the early years). However, changes in developmental trajectories occurred between the ages of 5 and 10 years and these strongly predicted adult outcomes (highlighting the importance of the middle years). Socio-economic status was associated with the level of development at age 5 *and*

strongly moderated the chances of relative advancement or decline between ages 5 and 10 years. For those whose socio-economic status decreased from high to low ('fallers'), negative adult outcomes were more likely; for those whose SES increased from low to high ('escapers'), adult outcomes improved. The authors concluded:

> The differences in outcomes between high-score persisters and fallers suggest that it is not being high quartile at age 5 that matters for these long-term outcomes so much as sustaining it to age 10. Scores at the two ages are correlated, and the argument is not that early scores or early influences do not matter; instead, it is that what happens in middle childhood can substantially alter any forecast based solely on early attainment. Development in this middle childhood period is a crucial element of a generally successful life course. Negotiating school and its tasks is not easy even for those with good signs of early cognitive promise. To protect against entry to negative pathways and reverse those that have already begun, continued investment in educational interventions is needed across all of middle childhood. (p. 1338) [71]

Specifically, Feinstein and Bynner recommended investment in education and reproducing or substituting the positive impacts of high socio-economic status in middle childhood, such as 'resource-rich and low-stress households, high parental interest in education, motivated and able peers, and beneficial school and out-of-school contexts' (p. 1338). [71]

Drug use and adolescence

Adolescence is the time of life when most drug use commences. Tarter described how characteristics of adolescence predispose adolescents to use and 'abuse' drugs [b 44] (Table 4).

[b] Tarter described the use of any drug apart from caffeine as 'antisocial' because it is illegal.

Table 4: Characteristics of adolescence as risk factors for drug abuse

Characteristic of adolescence	How this can contribute to drug abuse
Sensitivity to pharmacological effects of drugs	Larger quantities of drugs needed for desired effect, increasing the likelihood of disrupting the still-maturing brain, which in turn can mitigate psychosocial adjustment
Hormonal changes contribute to emotional lability	Negative effect is associated with drug abuse. Drugs can be used to ameliorate aversive emotional states
Phase shift in sleep cycle (late to bed, late to rise) can contribute to sleep deprivation when it is necessary to wake for school	Sleep deprivation is associated with impaired concentration, affecting school work and behaviour in school. These have been associated with drug abuse
Propensity to take risks	Novelty and sensation-seeking have been associated with drug abuse
Cognitive maturation (e.g. decision-making capacity) still developing	Poor choices are made regarding drug use, due to failure to appreciate consequences of actions
Executive cognitive function (e.g. strategic thinking, self-monitoring of behaviour during goal-directed behaviour) still developing	Behaviour is impulsive. This is predictive of drug abuse directly, as well as via other disorders such as conduct disorder, attention deficit disorder and hyperactivity disorder

Source: Tarter RE, 2002, pp. 171–191 [44]

Given the social roles of tobacco, alcohol and other drugs in combination with other changes occurring in adolescence as described above (for example, more time socialising with peers, less time with parents, identity formation), it is hardly surprising that drug use commences during this period. In light of other aspects of adolescence (for example, poor decision-making skills), it is a risky time to commence use. This combination of factors highlights the importance of harm reduction at this time.

Emerging adulthood

During the period of transition from adolescence to adulthood, freedom to use drugs and access to drugs increase. At the same time developmental challenges such as leaving home, commencing a career or completing tertiary education need to be managed. Schulenberg and Maggs reviewed the literature on alcohol use during the transition to college. [72] They described a number of developmental changes and how they impacted alcohol use. For example, this period is characterised by the desire to look (and appear) older and drinking alcohol can be a symbol of adulthood. Cognitive development affects perspective taking and decision making, so there is greater awareness of the benefits of drinking, less conviction that there are risks or costs with drinking, and greater identification of adult hypocrisy in relation to telling young people not to drink. During this period interactions with parents reduce while peer influences (including inflated norms of peer drinking) increase. Romantic and sexual relationships develop and alcohol can reduce inhibitions and give courage in this area, particularly for those with little

confidence or skills. For those attending college, exposure to cultural norms of heavy drinking on campus is often coupled with the stress associated with negotiating a new social and academic environment. Schulenberg and Maggs discussed how the transition to college needs to be facilitated to prevent problems relating to alcohol misuse, and that interventions are needed at the level of context; for example, by changing social norms of heavy drinking on campus. Young people entering college need to be assisted to balance their new freedoms with increased responsibilities, as too much of either can be detrimental and 'thwart the progression of mastery'.

People with a drug problem

Once a drug dependency is established, whether in adolescence or later in life, it is known to be a chronic, relapsing disorder. [73] While some people can quit smoking or control their alcohol or drug use on their own, the evidence suggests that treatment can help, and that social or family supports can also help. [74] There is no evidence that punitive approaches are effective in reducing problematic drug use. Recent moves to increase the diversion options for drug offenders are a positive step in the community's response to those whose drug use has contributed to offending behaviour. [75]

Developmental issues

This section draws attention to three important aspects of development that are relevant across the life course: resilience, stress and attachment.

Resilience

Resilience refers to the ability to avoid negative outcomes despite being exposed to a high-risk environment. There has been an increasing interest in the notion of resilience in the past decade. [76-86] Masten reviewed the longitudinal and cross-sectional research on resilience and identified ten protective factors that contribute to resilience: [87]

- effective parenting
- connections to other competent adults
- appeal to other people, particularly adults
- good intellectual skills
- areas of talent or accomplishment valued by self and others
- self-efficacy, self-worth and hopefulness
- religious faith or affiliations
- socio-economic advantages
- good schools and other community assets
- good fortune.

While such variables have been associated with positive outcomes, the development of resilience is not a simple matter. Rutter has asserted that we still do not understand the factors that promote resilience. [1] Many factors are likely to be involved in its development, including 'prior experiences, how the individual deals with stress at the time, inherent qualities of the individual, and subsequent experiences'. Rutter further asserted that 'people may be resilient with respect to some types of experiences and yet very vulnerable with respect to others' (p. 10). [1] The related phenomena of steeling, sensitisation and kindling effects are relevant here: [1]

> stress experiences make individuals either more resistant or more vulnerable to later psychosocial hazards. The question then is what is it about the individual, or the experience, that leads to one outcome rather than the other? There is some suggestion that milder stresses, or, more likely, ones that are accompanied by successful coping and adaptation, tend to foster steeling, whereas overwhelming stresses that bring about maladaptation and unsuccessful coping lead to sensitization …
> A further phenomenon is that of so-called "kindling" effects. This term refers to the phenomenon of individuals becoming less responsive to environmental stressors as a result of having developed a disorder. It appears that in some circumstances the experience of disorder brings about changes in the organism that predispose it to perpetuation that is relatively independent of the environment. (p. 10) [1]

It appears that no single protective factor is sufficient to provide resilience, and resilience does not mean 'bullet-proof' for life against all adversity. However, it is likely that the more protective factors there are, the greater the likelihood of resilience to a range of problem outcomes. It follows that programs and structures that promote and maintain these protective factors will build resilience to a range of adverse events, including drug abuse or dependence.

Stress

It is well established that prolonged stress is detrimental to mental and physical health. [88] [89] As summarised by Wilkinson and Marmot, prolonged stress resulting from long periods of anxiety and insecurity accompanied by insufficient social supports strains the body's response system and results in physical and mental health problems.

> Why do these psychosocial factors affect physical health? In emergencies, our hormones and nervous system prepare us to deal with an immediate physical threat by triggering the fight or flight response: raising the heart rate, mobilizing stored energy, diverting blood to muscles and increasing alertness. Although the stresses of modern urban life rarely demand strenuous or even moderate physical activity, turning on the stress response diverts energy and resources away from many physiological processes important to long-term health maintenance. Both the cardiovascular and immune systems are affected. For brief periods, this does not matter; but if people feel tense too often or the tension goes on for too long, they become more vulnerable to a wide range of conditions including infections, diabetes, high blood pressure, heart attack, stroke, depression and aggression. (pp. 12–13) [90]

Kristenson and colleagues noted that people with low social status report more environmental challenges and less psychosocial resources and that this can lead to feelings of hopelessness and a loss of coping ability. [89] This individual-level effect can be exacerbated by living in socially unsupportive communities. Boardman's analysis of area-level data from Detroit indicated that the impact of stress on physical health was stronger among residents from neighbourhoods with higher rates of residential mobility. [91] Boardman argued that this demonstrated that social resources, as indicated by stable residential context, can buffer the negative impacts of acute and chronic social stressors.

Long-term stress or the experience of trauma, including early childhood traumatic experiences, has been associated with drug abuse. [62-64] Taken together, such findings contribute to our understanding of why drug problems are more prevalent among people with low socio-economic status (Chapters 3 and 4) who live in disadvantaged communities [92] and who have experienced long-term stress and lack of control, such as Aboriginal peoples and Torres Strait Islanders (Chapter 6). Furthermore, drug-dependent people can experience significant stress relating to low socio-economic status and marginalisation [93] and the generally risky and chaotic lifestyle [94] that is likely to exacerbate and perpetuate their drug-use problems.

Wilkinson and Marmot suggested that the policy implications arising from knowledge of the detrimental effects of stress were that governments need to address social exclusion and provide welfare and support for disadvantaged people and families:

> In schools, workplaces and other institutions, the quality of the social environment and material security are often as important to health as the physical environment. Institutions that can give people a sense of belonging, participating and being valued are likely to be healthier places than those where people feel excluded, disregarded and used.
> Governments should recognise that welfare programmes need to address both psychosocial and material needs: both are sources of anxiety and insecurity. In particular, governments should support families with young children, encourage community activity, combat social isolation, reduce material and financial insecurity, and promote coping skills in education and rehabilitation. (p. 13) [90]

Attachment

Attachment has been identified as essential for human development, not only in early life, [12] but also in adolescence [95] and throughout the life course. [19 96] Culbertson noted that infants are genetically biased to form attachment relationships with their primary care-givers, even when those care-givers maltreat the child. [19] Only in severe circumstances, such as the severe institutional deprivation experienced by infants in Romanian orphanages in the 1980s, do infants fail to form attachments. Individuals who fail to form an attachment during childhood have difficulties forming attachments in later life. The quality of attachment is also important:

> children who have secure attachment relationships are more socially competent and interact positively with peers at later ages than infants in avoidant, ambivalent or disorganised/disoriented relationships. (p. 748) [19]

It is not difficult to see the importance of attachment for the development of drug-use behaviours. [95] As reported by Lee and Bell:

> The long-recognised connection between parent–adolescent attachment and adolescent risk behaviour is reflected in many sociologically based theories of delinquency, in theories pertaining to adolescent substance use and in analyses of risk and protective factors. Attachment within these theories typically is defined as emotional closeness to parents and is conceptualised as an indicator of the adoption of adult norms and expectations. Thus, attachment is designated as a protective factor for risk behaviour because it signals identification with conventional societal values. In contrast to these approaches, developmental

> frameworks place more emphasis on the importance for adolescents of negotiating the move toward independence while at the same time maintaining affective bonds with parents …
> The attachment–autonomy balance concept is relevant for the study of risk behaviours in the following ways. First, to the extent that this balance is associated with developmental competencies (e.g. identity exploration, confidence and competence in peer relationships, good coping ability) these competencies should contribute to adolescents' abilities to handle experimentation with limits and to avoid excessive, problematic and dysfunctional involvement in risk behaviours. (pp. 347–348) [97]

Similarly, alienation has proved to be predictive of drug use. [98] Hamil-Luker, Land and Blau's study of a nationally representative sample of youth aged 14–16 years in 1979 showed that social ties to schools, families, religion and the labour market influenced cocaine use through adulthood. [99]

This research highlights the importance of family relationships, particularly early in life, [12] and social supports, particularly in later life when people have grown away from their families. It is also likely to be a factor in the success of mentor programs for the prevention of drug use and other problem behaviours. [100]

Prevention and intervention across the life course

The above review of human development and the development of drug-use behaviours suggests the need for programs and structures that support healthy development from the antenatal period to adulthood. While recent (and valid) focus has been placed on the early years of life, we need to be careful not to overlook the remainder of the life course. Each developmental stage has its own challenges and needs which must be addressed. [101] [102]

Addressing developmental transitions requires a multi-faceted approach. For example, Schulenberg and Maggs described five conceptual models of developmental transitions and how these can relate to health risks due to alcohol use: overload, developmental mismatch, increased heterogeneity, transition catalyst, and heightened vulnerability to chance events (Table 5). [72] For example, the Overload Model suggests that alcohol misuse can be a coping mechanism when an individual is unable to cope with the multiple role changes demanded by a major life transition and is feeling overwhelmed. Accordingly, interventions could assist by helping to stagger the timing of transitions and increasing the coping capacities of the individual. The models are not mutually exclusive, and each model suggests different implications for interventions. Overall, Schulenberg and Maggs' paper highlights the need to consider supporting transitions from multiple perspectives: building resilience in individuals as well as creating environments with opportunities and supports to assist developmental transitions.

Table 5: Conceptual models relating developmental transitions to health risks

Model description	Examples	Intervention implications
Overload Multiple developmental transitions overwhelm coping capacities, resulting in increased health risk behaviours	Use of alcohol to attempt to cope with heightened stress caused by experiencing multiple transitions	Stagger timing of transitions; increase coping capacities
Developmental mismatch Developmental transitions alter the goodness-of-fit between individuals and their contexts, resulting in changes in health risk behaviours	Transition decreases match between needs of individuals and opportunities provided in context, resulting in seeking alternative contexts involving increased heavy drinking and other risky behaviours	Increase match between individual needs and opportunities in context; provide better matching alternative contexts
Increased heterogeneity Developmental transitions exacerbate individual differences in ongoing health/well-being trajectories	Individuals already running an emotional/psychological deficit have difficulty negotiating new transition, resulting in increased alcohol use as a form of self-medication	Through targeted efforts, counter individual deficits and social networks supportive of problems behaviours
Transition catalyst Health risk behaviours may assist in, or be fundamental parts of, negotiating certain developmental transitions	Alcohol use increases because it is believed to facilitate new friendship, romantic/sexual relations and social bonding	Provide alternative routes to meeting social and sensation-seeking goals
Heightened vulnerability to chance events Developmental transitions can increase likelihood and effects of positive and negative chance events	Increased exploratory behaviour of new contexts contributes to novel experiences, including heavy drinking and associated negative effects	Increase awareness of, and resiliency to, potential negative effects of chance events

Source: Schulenberg JE, Maggs JL, 2002, pp. 54–70 [72]

Homel and his team did an excellent job of promoting a developmental approach to crime prevention in their document *Pathways to Prevention*. [42] Their approach is equally relevant for drug prevention, as demonstrated by the use of a life-course approach by the Victorian Drug Policy Expert Committee (reproduced in Table 6). [103] Many of the programs/initiatives are not drug-specific, but will have benefits in terms of child and youth development and the prevention of multiple problems.

Table 6: Interventions recommended by the Victorian Drug Policy Expert Committee

When	Involving	Example program/initiative
Antenatal	Parents, hospital, maternal and child health nurses	Clear information about impacts of parental smoking, drinking and other substance use on the newborn and child
		Preparation for parenting
	Maternal and child health nurses	Structured additional support for those mothers with particular needs (substance use or mental health problems)
Postnatal	Parents, maternal and child health nurses	Access to advice on parenting
		Family strengthening programs
0 - 5	Parents, childcare, preschool	Programs aimed at improving learning and emotional development in those particularly at risk
		Information for parents about modelling moderate substance use (for example, alcohol)
		Programs to integrate isolated mothers into parent networks
5–11	Teachers, student welfare officers, parents	Early years of schooling: transition to program to support emotional growth and social skills development
		Mechanisms for teachers to access advice and mobilise additional support for children displaying aggressive and poor socialisation skills (including bullying programs)
		Programs to prepare children for the transition from primary to secondary school
		Programs to link with community groups, sport and activities
		Mechanisms to support parents
11–18	Secondary school, other pathways to employment, media	Programs to support children in the transition from primary to secondary school
		A focus on emotional and personal development
		Development of mechanisms to involve and support parents
		Clear information about drug use in our community
		Development of a capacity to monitor truancy and school leaving
		Programs for reintegration into a learning environment for those who have 'dropped out'
14–21	Workplace, universities, TAFE institutions	Development of targeted information about substance use for those entering the workforce, undertaking further study
		A program of support to assist young people in the transition from school to work, particularly those who leave school early
		Recreation and public space projects
		Early detection of psychosis and mental illness
21+	Professionals such as GPs, peers, workplace	Clear information about safe levels of drug use
		Support for GPs to provide advice about safe consumption levels (for example, alcohol)
		Information about drugs at work, including appropriate alcohol consumption at social functions (for employers and workplaces)

Source: Victorian Drug Policy Expert Committee, 2000 [103]

For those individuals who have begun to exhibit a problem behaviour (for example, primary school children exhibiting aggressive behaviour, high school students using drugs at school or truanting, adolescents and adults in detention), programs need to be in place to assist in reducing problems and helping individuals to get back 'on track'. As

argued by Homel and colleagues, the earlier such intervention occurs, the better. [42] However, it is never too late to intervene. For example, programs for high-risk youth have been demonstrated to be cost-effective. [104 105] There is no excuse, on ethical or financial grounds, for failing to address problems when they arise.

STRUCTURES FOR CHILD AND YOUTH DEVELOPMENT

Structures such as families, systems and policies have important roles in the healthy development and prevention of problems among children, youth and adults. Systems include the early childcare system, the education system (preschools, infants schools, primary schools, high schools and tertiary education), workplaces, the welfare system, the health system, the justice system (including police, courts, probation and parole systems, and detention centres) and local councils. Families and systems need to be supported in this role. In the case of many systems, the role they play could be expanded or clarified to ensure their potential is realised. While it is not possible to review the roles and issues of all structures, some issues relating to some of these structures are presented below.

Families

Families are crucial for the healthy development of children and the role of families in the development of drug-use behaviours is well documented. [84 106] Family risk factors for drug abuse, as identified in a review by Kumpfer and colleagues [107] and summarised in a review commissioned by the National Health and Medical Research Council, [108] are summarised in Table 7.

Table 7: Family factors associated with drug abuse

Family history of behaviour problem, including: - parental or sibling role modelling of antisocial values and drug-taking behaviours - favourable attitudes about drug taking - parental criminality, psychopathology and antisocial personality disorder and drug abuse
Poor socialisation practices, including: - failure to promote positive moral development - neglect in teaching life, social and academic skills to the child or providing opportunities to learn these competencies - failure to transmit prosocial values and to disapprove of youth's use of drugs
Ineffective supervision of the child, including: - failure to monitor the child's activities - neglect - latchkey conditions - sibling supervision - too few adults to care for the number of children
Ineffective discipline skills, including: - lax, inconsistent or excessively harsh discipline - parental behavioural under-control or psychological over-control of the child - expectations that are unrealistic for the developmental level of the child, creating a failure syndrome - excessive, unrealistic demands or harsh physical punishment
Poor parent/child relationships, including: - lack of parental bonding and early insecure attachment - repeated loss of caretakers - negativity and rejection of the child by the parents, including: o cold and unsupportive maternal behaviour o lack of involvement and time together, resulting in rejection of the parents by the child - maladaptive parent/child interactions
Excessive family conflict and marital discord with verbal, physical or sexual abuse
Family disorganisation, chaos and stress - often because of poor family management skills, life skills or poverty
Poor parental mental health, including depression and irritability - which cause negative views of the child's behaviours, parental hostility to child, and harsh discipline
Family isolation - lack of supportive extended family networks - family social insularity - lack of community support resources
Differential family acculturation - role reversal - loss of parental control over adolescents by parents who are less acculturated than their children

Source: Kumpfer, KL, Olds DL, Alexander JF, 1998, pp. 42–77 [107]

While substantial research has examined the role of parents on child development and drug use, there is less research into the societal factors that influence parenting. Assuming all parents want the best for their children, what factors support or hinder parents in providing the supervision and care that is needed? There is some concern about social trends (for example, increasing rates of parents in the workforce, sole parents, longer working hours) placing strain on the ability of parents to provide supervision and care. [109] While children might be understanding of their parents working and enjoy the material rewards, [110] the fact remains that employment strains parents, in terms of time constraints and stress levels. The impacts of parental employment and childcare experiences are dependent on a number of factors, such as the nature of the working hours and the quality of childcare. For example, Shonkoff and colleagues discussed the impacts of maternal employment on early child development:

> we have learned that maternal employment is too complex a phenomenon for simple comparison between young children with and without working mothers to reveal consistent differences. Rather, it is the circumstances of work, such as the income it generates, the proportion of the day the infant is spending in the presence of a security-giving, trusted caregiver, and related effects on family functioning that lie at the heart of how maternal employment affects young children. In particular, there is now evidence that non-standard working hours — which now make up a major share of jobs for poor working women — pose risks for children; and that going to work for long hours during the child's first year poses a risk to child development perhaps especially when trade-offs are involved from time in sensitive and stable parental care at home to time in poorer quality alternative care, as they often are. (p. 296) [12]

As discussed below, government policies such as those relating to welfare, childcare, taxation and industrial agreements are important in shaping the ability of parents to balance work and parenting, and in assisting disadvantaged groups to break the cycle of disadvantage. [109 111] Further, high-quality and accessible early childhood programs (discussed above), mentor programs [100] and youth development programs [112 113] can assist in the role of raising and supporting children and youth. With increasing rates of parents working and with up to 20 per cent of Australian children living in poverty (Chapter 1), such programs are becoming a social necessity rather than an optional extra.

Childcare system

Early childhood development programs include activities that support children's social, cognitive, physical, spiritual and emotional development. They include playgroups, preschool, childcare, child health surveillance, home visiting, parent education, kindergarten and programs for children with a developmental delay or disability. Many programs are bi-generational and are based on the recognition that influencing maternal health and well-being outcomes is a critical pathway to influencing child health and well-being. [114] Reviews of these programs have concluded that early childhood development programs can improve readiness to learn, literacy and numeracy, school performance, school retention, and socialisation (including criminality and drug abuse); and decrease grade retention and special education. [115-118] While the evidence is particularly strong for programs that target high-risk families, an association between quality universal early childhood services and outcomes has also been reported. [115] In terms of cost-effectiveness, the evidence suggests that good-quality early childhood development

programs can be cost-effective, with returns being greater than the original investments. [116 119] Examples of successful early childhood development programs often cited are:

- The Perry Pre-School Project (USA), a preschool program that emphasised active learning with children, demonstrated that for every $1 spent in the program, $7 in public expenditure was saved in later life (to age 27 years). Results at age 27 included lower involvement in drug dealing and other criminal activity as well as improved educational performance and employment. [120]
- The Elmira Project (USA), a nurse home visitation program for high-risk mothers, which cost $6,000 per mother–child pair, demonstrated over $24,000 savings in public expenditure (criminal justice, welfare, health services) and increased tax in the first 15 years after the birth of the child. [121]

However, there are caveats on these findings. First, program outcomes have been mixed [115] depending upon the quality and duration of program implementation. This in turn rests on the program plan, the quality of staff and the amount of funding available. Secondly, these programs were not externally evaluated, so results should be interpreted cautiously. Thirdly, results from overseas studies need to be tested in Australian settings. Finally, as noted by Brooks-Gunn, early childhood interventions on their own will show improvements, but are not a panacea. [118]

Education system

The education system spans from the early years (preschool) to adulthood (tertiary and vocational education). Does each level of education contribute as fully as possible to promote the development and well-being of its students? Issues relevant to answering this question are debated in the literature. For example, research that is relevant to Australia demonstrates systemic barriers to youth with lower socio-economic backgrounds in accessing higher education in the United Kingdom. [35 122] Research and debate have also focused on the impact of the split in the school system between public, selective and private schools. Critics have argued that such a system results in disadvantages to those remaining in the public schools (such as the loss of positive role models and positive peer influences) and encourages social division within the community. [123] While all relevant issues cannot be discussed here, the notion of the role of schools in youth development is discussed.

Schools are in a unique position to influence child and youth development. They care for children five days a week from the age of around 5 years to around 17 years. In addition, they have substantial physical resources (buildings and land) which tend to shut down mid-afternoon, on weekends and during school holidays. With parents increasingly at work and communities increasingly deemed unsafe, schools have the potential to play a much greater role in child and youth development and problem prevention. Such a suggestion is not an argument for cramming more into the existing curriculum with existing teachers. Rather, it concerns increasing existing resources and changing the system.

One way to expand the role of schools is the notion of 'full-service community schools'. Dryfoos defined full-service community schools, summarised the history of their development and described the results of evaluations and lessons learned from their implementation in the United States of America. [124] Full-service community schools have evolved in communities across the United States since around 1980. They have emerged

from a variety of origins and as a result adhere to no formal 'standards'. However, generally a full-service community school has the following features:

- operates in a public school building
- is open to students, families and the community before, during and after school, seven days a week, all year long
- is jointly operated and financed through a partnership between the school system and one or more community agencies
- is oriented toward the community, and encourages student learning through community service and service learning.

In practical terms, a full-service community school entails a full-time coordinator who works with the school principal to coordinate the delivery of a range of support services which are provided by local agencies. Full-service community schools operate like a 'one-stop shop' providing a range of health, welfare and other services. Activities are provided in some or all of the following areas:

- education for youth and adults
- positive youth development
- family support
- family and community engagement in decision making
- community development.

In the United States, full-service community schools have mainly been implemented in disadvantaged areas. The choice of activity or service has tended to be determined by need, interest and availability of resources in the community. Activities as diverse as the provision of clothes-washing facilities have been incorporated to attract parents to the program. While evaluations have tended to be unpublished and of poor quality, after reviewing the evaluations Dryfoos concluded that the reported results were sufficiently positive to warrant further trial and proper evaluation of the model. Most programs reported multiple positive outcomes, including reductions in drug abuse. Other outcomes have included:

- academic gains among participants
- improved school attendance among students and teachers
- reduced suspensions and disruptive behaviour in the classroom
- reductions in adolescent pregnancy
- improved access to health and other services
- increases in parent involvement
- lower rates of child abuse and neglect
- fewer out-of-home placements
- greater sense of adult (parent and teacher) support reported by students
- lower rates of community violence.

While these results are not from controlled trials and need to be empirically tested, the full-service school concept appears to have merit and to warrant consideration for an evaluation trial in Australia. There have been some trials of school programs in Australia that have incorporated elements of the full-service school concept; for example, the 'schools as community centres' program in New South Wales. However, these trials have

been limited to primary schools.[c] It is recommended that such trials be carried out in Australian high schools.

There is some indication that the United Kingdom Government appears to be extending the role of schools consistent with the full-service community schools concept. In its five-year strategic plan for learning it aimed to address elitism in the school system and achieve a nation in which, for example, 'all schools are extended schools; community schools; healthy schools; inclusive schools; and enterprising schools (with real links to business)' (p. 5). [126]

Social policies

A number of international reviews of social policies provide consistent support for policies that support families to raise children, rather than expecting parents to do so on their own. Three such studies are summarised below.

The United Nations Children's Fund Innocenti Research Centre (IRC) described child poverty in 23 wealthy member nations of the Organisation for Economic Cooperation and Development. [127] The data showed that child poverty in Nordic countries (Sweden, Norway, Finland) was substantially lower than in other nations, in both absolute and relative (reflecting inequality) terms, at around 3–5 per cent. This is compared with rates of absolute poverty in Australia of 16 per cent and relative poverty of 13 per cent. The IRC argued that these different rates in child poverty reflected Nordic social policies that:

- emphasised getting people into work; for example, by providing generous maternity leave (up to three years) and universal day care
- aimed at redistributing income to reduce inequalities
- emphasised universal rather than targeted approaches.

The IRC report noted that these policies had financial costs, so Nordic taxes are high. However, they argued that, due to the affluence enjoyed by Nordic countries, high taxes do not hinder economic growth, but provide positive outcomes such as low rates of child poverty and high rates of employment.

Mehrotra examined the policies that contributed to a set of ten developing countries achieving greater social development than expected on the basis of their national wealth. [128] This policy analysis highlighted the importance of education, social investment even during times of crisis, and involving women as agents of change rather than beneficiaries of welfare. Mehrotra summarised the findings with five principles of good social and economic policy. These are paraphrased below:

1. Public action had a pre-eminent role in social development, regardless of whether it took place in a centrally planned economy or a market economy.

[c] A program called 'full service schools' was trialled by the Commonwealth Government to encourage young people to stay in high school. 125. Commonwealth Department of Education Training and Youth Affairs. National evaluation report: full service schools program. Canberra: Commonwealth Department of Education, Training and Youth Affairs, 2001. However, this was different from the model described by Dryfoos.

2. While the level of social spending was important for health and education outcomes, the equity of the intra-sectoral spending pattern mattered even more for social development.
3. Efficiency in the utilisation of human and financial resources was needed to ensure that social spending did not burden the government treasury.
4. A sequence of social investment was identified whereby educational achievement preceded, or took place at the same time as, the introduction of health interventions. The separate sectoral interventions had a synergistic impact on the health, educational and nutritional status of the population. That is, the sum of their impact was greater than the effects of the individual interventions.
5. Women were equal agents of change and not mere beneficiaries of a welfare state. [128]

Phipps analysed existing data to identify the impacts of different types of social policies relevant to young children and families on child outcomes in five countries: Norway, the United Kingdom, the United States of America, Canada and the Netherlands. [111] The focus of her analysis was tax and transfer programs, but her analysis also included a discussion of health, education and childcare policies. The study was preceded by an analysis of the socio-demographic and cultural characteristics of the five countries, which identified the following factors in all five countries:

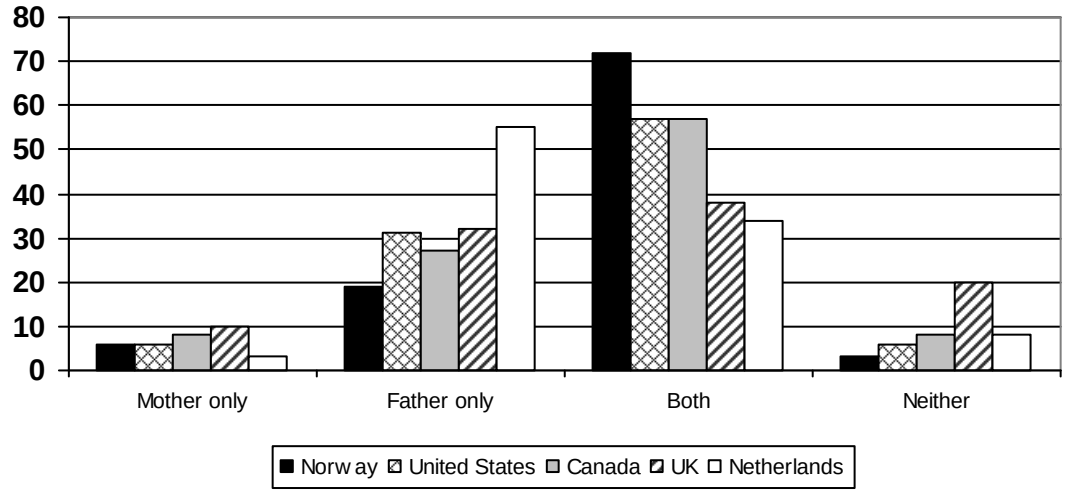
- Female labour force participation had increased while male labour force participation had declined somewhat.
- Fertility had declined.
- Divorce rates had increased dramatically.
- Income inequality had increased.

Differences between countries in the experiences of children were noted. For example, in the early 1990s, children were most likely to live in a lone-parent family in the United States of America, and least likely to live in a lone-parent family in the Netherlands. The rates were:

United States	31 per cent
Norway	24 per cent
United Kingdom	17 per cent
Canada	16 per cent
Netherlands	8 per cent

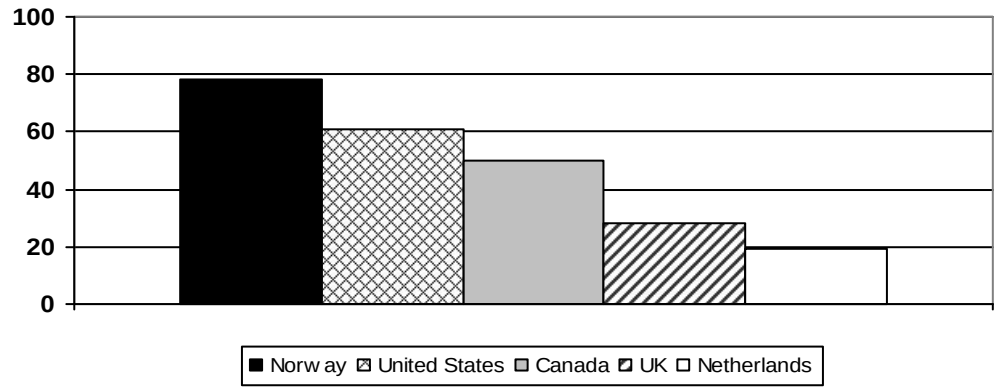
Data from the early 1990s from the Luxemburg Income Study Children showed differences between countries in the percentage of children living in two-parent and lone-mother households whose parents had a positive wage. Children from Norway were most likely to live in households in which both of their parents (Figure 5) or their lone-parent (Figure 6) worked.

Figure 5: Percentage of parents with a positive wage for children living in married-couple households



Source: Based on data in Phipps S, 1999, p 51 [111]

Figure 6: Percentage of parents with a positive wage for children living in lone-mother households



Source: Based on data in Phipps, 1999, p. 52 [111]

Citing previous research and data from the World Values Survey, Phipps reported differences in values between the five countries she examined that could influence their different social policies. People in Europe were reportedly more willing to accept social responsibility for children while people in North America were more likely to view children as a private responsibility. Attitudes towards inequality in income distribution indicated that Americans were the least egalitarian, Canadians were in the middle, and respondents living in the other countries, particularly Norway and the Netherlands, were significantly more egalitarian. When asked 'Why do people live in need?', respondents from the United States were most likely to believe it was due to laziness, while respondents from the Netherlands and Norway were least likely to believe it was due to laziness. Phipps noted:

> These patterns accord with much cross-country comparative research on social policy in general, all of which groups Canada, the United States and the United Kingdom together as "liberal" countries very much focused on preserving efficiency through the maintenance of appropriate work incentives. That is, policy discussion in these countries is extremely concerned that "too generous" transfers will lead people, naturally lazy, to take advantage of the programmes by working less for pay and "enjoying" more time jobless. (p. 14) [111]

The comparison of the policies of the five countries is too detailed to summarise completely, but highlights are summarised. First, the Netherlands and Norway had larger state sectors (higher levels of taxation and spending on social security programs as a percentage of GDP) than the other three countries:

> The United States had considerably lower levels of social spending than the other four countries. Virtually 100 per cent of families with children receive some social transfers in the Netherlands, Norway and the United Kingdom, given universal family allowances. Only half of families with children in the United States receive social transfers, but for those who do, this is a more significant component of family gross income. (pp. 55–56)

Second, tax structures varied in ways that could differentially benefit low- or high-income families:

> In some countries, parents may be offered tax relief for dependent children through a tax exemption (which is of greater benefit to higher income families with higher marginal tax rates) or a tax credit (which is usually valued at the lowest marginal tax rate and so is of equal value for families of any income level). For example, the United States offers tax exemptions for children though it does not offer child benefits; Norway offers both child benefits and tax credits for dependent children; Canada, the United Kingdom and the Netherlands do not offer tax relief for dependent children. (p. 56)

Third, child benefits varied such that the United States was the only country that did not pay family allowances. Family allowances were universal in each of the other countries except Canada, which were income-tested from 1993. Fourth, maternity benefits were most generous in Norway (for example, 42 weeks fully paid parental leave, 52 weeks at 80 per cent pay, or return to work part-time with top-up of salary for up to two years; paid leave can be split between parents) and least generous in the United States (12 weeks of unpaid leave for public employees or firms with at least 50 employees). Fifth, a much higher percentage of children in Norway (73 per cent) received child support than in the other countries. Finally, for most children in the United States, health care had to be purchased privately whereas only 3 per cent of health expenditure in Norway was private.

Phipps characterised the social policy mix as follows (pp. 62–63):

1. In terms of overall level of support, Norway and the Netherlands spent the most on social programs in general and on children in particular. The United States of America spent the least.
2. In terms of children being regarded as a public or a private responsibility, children were more likely to be regarded as a public responsibility in Norway and the Netherlands than in the United Kingdom or the North American countries.

3. In relation to the extent people worried about work incentive effects, the European countries were much less concerned about generating negative incentives to take paid employment. They offered very generous transfers to single mothers in Norway, yet the rates of labour-force participation by single mothers were higher in Norway than in any of the other countries studied. Phipps suggested that this might be partially a result of the universal rather than income-tested nature of many of the benefits that were not lost as a result of labour-force participation. High labour-force participation by single mothers in Norway was also partially a result of the other supportive policies that were in place (for example, generous parenting leave programs and better childcare than in the North American countries). Phipps argued that the relative lack of concern about work incentives reflected basic social attitudes: individuals in Norway and the Netherlands were much less likely to believe that people live in need because they are 'lazy' than are individuals in Canada or (more particularly) the United States.
4. In relation to whether programs were largely targeted or universal, Norway, the Netherlands and the United Kingdom all provide a universal child allowance. The level of these benefits was most generous in Norway and the Netherlands. Canada provided an income-tested child benefit, whereas no family allowance at all was offered in the United States.
5. In relation to the type of benefits (in-kind transfers or cash), children received basic education from around six years in all countries and health care was also provided to all children in all countries except in the United States, where for most families it was the responsibility of the parents.
6. The United States was characterised as preferring to deliver benefits through the tax system rather than cash child benefits, but it did offer tax exemptions for dependent children. In comparison, Norway offered both and Canada did not allow exemptions/credits for dependent children.
7. On whether programs were designed to support mothers working at home, to support mothers working outside the home, or to allow choice between these options, the policies of Norway and the Netherlands diverged significantly. Norway offered more generous parenting leave programs, so mothers could readily participate in the paid labour force. In contrast, in the Netherlands, policy tended to support mothers to care for their children at home. Phipps described the policies in the United States as contradictory on this issue. On the one hand, social values seemed to favour the work ethic, yet programs to assist parents to participate in the labour force were almost non-existent.

Phipps noted that some might argue that Norway's higher taxes and more generous social spending are not advisable, as they would provide disincentives to work and be detrimental for the economy. However, she argued that Norway's favourable macro-economic performance suggests otherwise. Further, some would argue that only Norway can afford such spending because it is a wealthy country. Phipps' counter to this argument was that Norway is only now a wealthy country, and that the social programs were instituted at a time when Norway was much poorer than Canada or the United States. Phipps concluded:

> The creation of the Norwegian welfare state was thus a choice about how to allocate resources; not just a luxury of a state with more resources to spend. (p. 81)

Having established the different policy mix of the five countries, Phipps described the effects of these different policies in terms of child well-being. Some examples of differential outcomes are provided below:

- There was much less family income inequality in Norway and the Netherlands than in the United States.
- The disparity in the living standards of children with single mothers compared with other children was lowest in Norway, and highest in the United States.
- Child poverty rates were high in the United Kingdom (19 per cent) and the United States of America (18 per cent), and dramatically lower in the Netherlands (6 per cent) and Norway (5 per cent). Canada was in the middle (13 per cent). Phipps noted that 'the United States has the second-highest average income level, though the worst record in terms of poverty' (p. 86).
- Child health outcomes (for example, birth-weight, accidents) generally favoured Norwegian children and were generally poorest for children from the United States.
- Differences were evident in emotional well-being and problem behaviours. For example, children from the United States were the most likely to be cruel or to bully others, children in the United Kingdom were most likely to be disobedient in school, and Norwegian children were much less likely to be anxious/frightened than children in other countries.

Phipps concluded: 'Outcomes for children in Norway are consistently at least as good and in almost all cases better than for children elsewhere' (p. 122). This was attributed to Norway spending more money on extensive universal programs for children and families. In short, the comparison of country policies and outcomes suggests that policies that are universal and supportive to families are not only associated with better health and social outcomes for children, but also appear to support economic wealth and equality.

Legal system

The regulatory system creates tangible incentives and disincentives for specific behaviours. There is a history of research on the impacts of drug laws and their enforcement on drug use and related problems. [129 130] Most obviously, drug laws that proscribe the possession, use or sale of specific drugs act as a disincentive to drug use or certain forms of use (for example, drink-driving laws) or sale (for example, legislation regarding the supply of tobacco, alcohol and psychoactive medications). Burris and colleagues have discussed less direct impacts of laws and legal practices that can influence health (and drug-use behaviours) by both operating as a pathway for, and contributing to the shape of, the social determinants of health. [131] By way of example, Burris and colleagues described how laws and legal practices can operate as a pathway for two social determinants of health (socio-economic position and social cohesion), as well as contributing to the existence of socio-economic disparities and low social cohesion. Their arguments are summarised below.

Laws and legal practices can operate as a pathway for social determinants of health to have an effect. For example, negative experiences with the law can have negative psychosocial effects which contribute to stress levels. These experiences tend to be more prevalent among people from lower socio-economic backgrounds, thus reinforcing the negative impacts of low socio-economic status on stress and further alienating marginalised groups and reducing social cohesion. Similarly, the law might be a means of

unevenly distributing exposure to pathogens (such as human immunodeficiency virus or hepatitis C virus) or pathenogenic practices (for example, needle sharing) so that low socio-economic groups or uncohesive communities are more exposed than high socio-economic groups or cohesive communities. For example, higher rates of arrest and incarceration of Indigenous people place Indigenous people at greater risk of exposure to unsafe drug use in prison than non-Indigenous people.

Laws and legal practices can also contribute to shaping the social conditions that can influence health. For example, the taxation system can contribute to economic equality and (thereby) social cohesion. Another example presented by Burris and colleagues was the laws allowing political parties to receive campaign funds from big business and wealthy interest groups (including the tobacco and alcohol industries). They argued that the result is a system dominated by the wealthy and their interests, rather than one accessible to the population as a whole. Such a system can have negative impacts on the population's faith in politicians and the political system and reduce the public's willingness to be involved in civil society. It can also create or exacerbate economic inequality. Burris' research indicates how the legal system can directly and indirectly affect drug use and suggests the need to thoroughly evaluate the impacts of the legal system on drug use and related harms.

CONCLUSIONS

As a society, we need to ensure healthy physical and mental development from early life, throughout adolescence and into adult life. This requires a balance of attention to child and youth development, problem prevention and assisting individuals who are experiencing difficulties. Structures and programs are needed to assist in meeting developmental tasks, and to assist as early as possible those who encounter difficulties, before problems develop into larger and less tractable issues. Further, for those individuals who have ongoing problems, such as drug problems, which tend to be persistent once established, appropriate assistance is needed. Punitive responses to people with drug problems only exacerbate the problems.

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CHAPTER 3: CULTURE AND SOCIAL STRUCTURES

Introduction

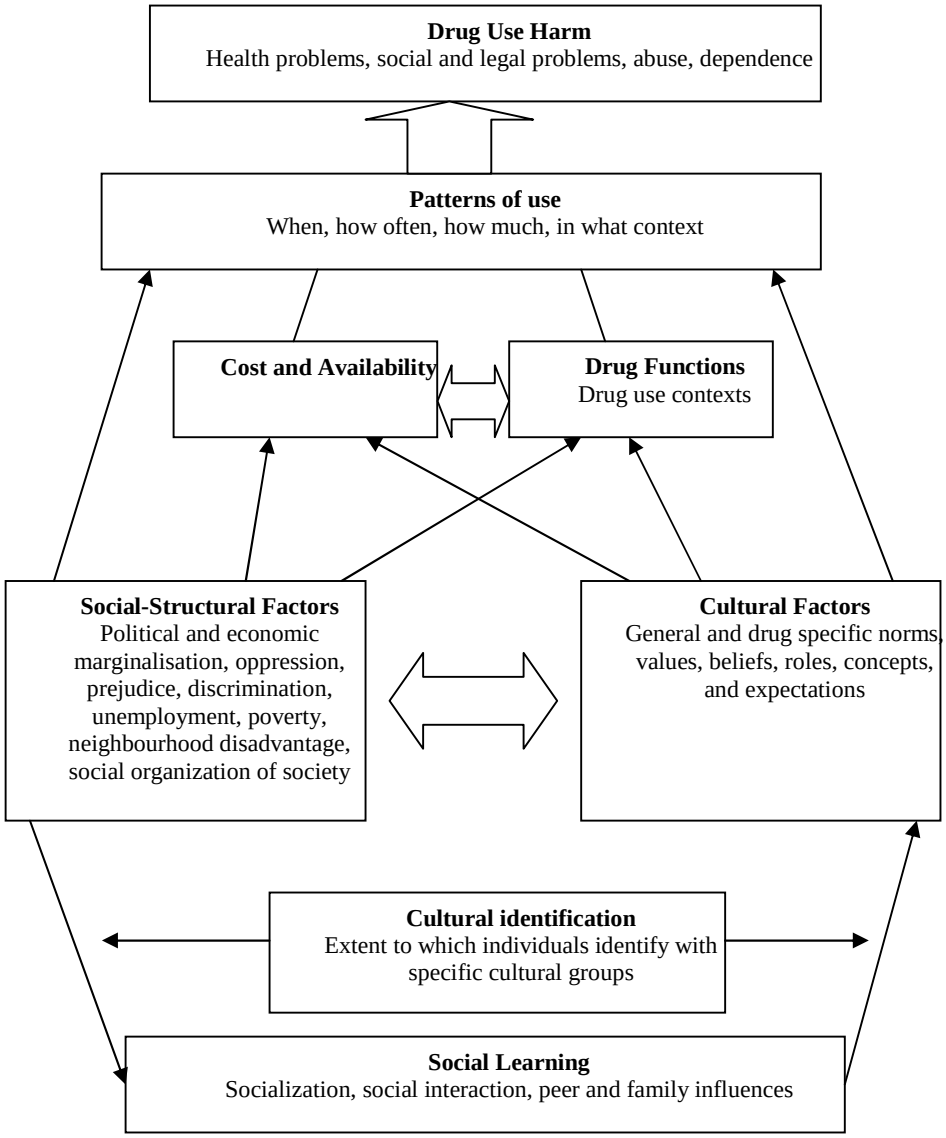
In this chapter, we discuss the influences of culture and social structures on drug use. While the term 'culture' is generally understood to denote norms, beliefs, values and meanings, there are multiple definitions of the term 'social structure'. [1 2] Further, as discussed by Eckersley, the concepts of culture and social structure are considered by some to be separate, but by others to be interconnected. Based on the various definitions used in the research literature, we have derived the following meanings for social structure:

1. the roles, relationships and domination associated with societal categories such as gender, race and class
2. the social, economic and cultural characteristics of a society
3. societal systems and institutions such as the education system and welfare policies.

No single definition of social structure encapsulates every connotation of the term as used in the literature, and the definitions above are open to a range of interpretations.

Cultural environment and social structures can influence drug-use behaviours through a number of mechanisms. A model that satisfactorily depicted all of these mechanisms and their interrelationships was not found; however, Durrant and Thakker's model included a number of relevant factors and was found to be useful (**Figure 1**). [3] In this model, patterns of drug use are directly influenced by social structural factors, cultural factors, drug availability and drug functions. Each of these factors is interconnected and influences or mediates between other factors. Social structural factors and cultural factors are themselves influenced by cultural identification and social learning (as per social learning theory).

Figure 1: An integrated model of the role of cultural factors in drug use



Source: Durrant R, Thakker, J, 2003, p. 187 [3]

One element not included in Durrant and Thakker's model is how culture can influence policies and programs, which then directly or indirectly influence drug use. For example, Phipps has described how cultural attitudes concerning who is responsible for raising children can influence child and family policies, which then impinge upon child and adolescent outcomes (Chapter 1). [4]. Lawrence, Bammer and Chapman described how community attitudes towards drugs influenced efforts to trial prescribed heroin as a treatment option. [5] Durrant and Thakker's model is useful, however, for illustrating the inter-relationship of cultural factors and social-structural factors, for highlighting the importance of cultural identification and social learning, and for noting the role of drug cost, availability, functions and contexts.

This chapter includes a discussion of the following cultural and social-structural influences on drug use:

- cultural influences that are specific to drug use and cultural influences that affect a range of behaviours
- social categories (class, gender and race) and the impacts of social position, marginalisation and labelling
- characteristics of society at the local community and global levels.

Cultural Factors

Cultural influences can be divided into drug-specific cultural influences that only (or primarily) influence drug-use behaviours (for example, disapproval of illicit drug use) and broader (Western) cultural influences (for example, individualism) that can have indirect influences on drug use and other behaviours (for example, antisocial behaviour). These two aspects of culture are discussed below.

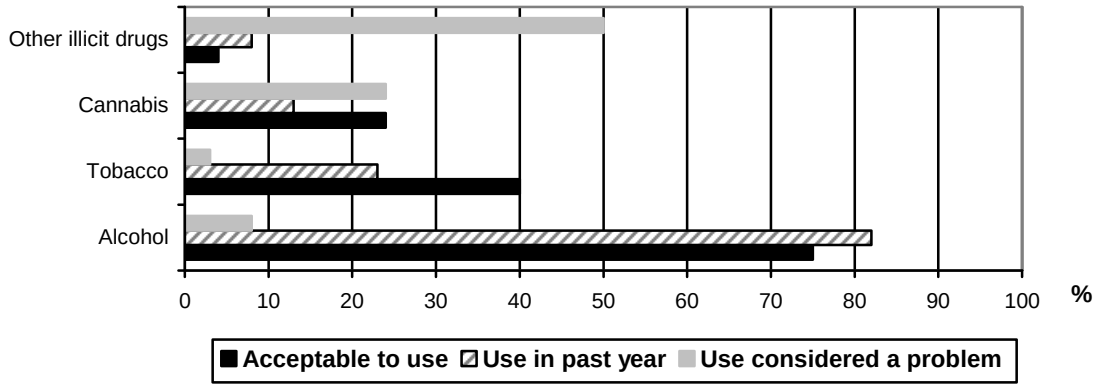
Drug-specific cultural influences

Norms regarding acceptable patterns of drug use vary with factors such as the type of drug (for example, tobacco, alcohol, cannabis or heroin), the historical period, the setting (the location, occasion and the presence of others) and group affiliation (for example, with gender, ethnic, age and social groups). These factors are briefly discussed below together with consideration of how such influences might be modified to minimise drug harms.

Drug type

Attitudes towards drug use vary with the drug type. The attitudes of Australians aged 14 years and over regarding the acceptability of use of specific drugs and drug laws (legalisation, penalties for sale and supply) were assessed by the National Drug Strategy household survey in 2001. [6] The acceptability of drug use varied, such that the use of illicit drugs (cannabis and other illicit drugs) was less acceptable than the use of legal drugs (alcohol and tobacco) (Figure 2). Variation within these categories tended to reflect the population prevalence of use. However, the relationship between use and acceptability of use was not consistent. More respondents were likely to think smoking tobacco or cannabis was acceptable than actually used tobacco or cannabis. The converse was true in relation to alcohol and illicit drugs other than cannabis. The attitudes of the general public towards use of specific drugs appear to be influenced by factors other than their own use and the legality of the drug.

Figure 2: Attitudes to use of particular drugs and use of particular drugs in the past year



Source: National Drug Strategy Household Survey, 2001 [6]

The acceptability of use was negatively related to the perceptions of which drugs are causing problems, and these perceptions appeared to be influenced by the drugs' legal status (Figure 2). The drug that most people 'first thought of' as being associated with a drug 'problem' was heroin (50 per cent), followed by cannabis (24 per cent). Alcohol (8 per cent) and tobacco (3 per cent) were least considered to be a problem, despite their being associated with the most harm and drug-related deaths. [7] Thus, attitudes towards the use of particular drugs vary with factors such as drug laws, prevalence rates of use, and perceptions of harm.

Historical period

Cultural influences on drug use have changed over time. As discussed by Parker, the use of cannabis, which was regarded as deviant 40 years ago, is now so prevalent that its use has become more normalised and socially acceptable, at least among young people. [8] The 1960s began a period of enormous cultural change together with the development of anti-establishment youth cultures which included hippies smoking cannabis and using LSD,[a] rock-music cultures characterised by 'sex, drugs and rock'n'roll', punk rockers using heroin and so on. The use of ecstasy and related drugs was almost unheard of 20 years ago, but is now increasing and the user group is broadening, as a result of increased availability and the emergence of the dance music and club scene. [9] Riley and Hayward described how this drug-use trend emerged in the context of more general cultural trends 'related to a "time out" culture of hedonistic values that reflects the individualistic and risk-oriented society of western late-capitalism' (p. 260). [9]

Pampel described how tobacco use changes over time as its status in the population changes. [10] When tobacco is first introduced into a country, new adopters (who tend to be in the wealthier section of society) start smoking. Tobacco becomes a status symbol as smoking becomes fashionable and then the general masses start smoking. The wealthier elite start to become concerned with health, fitness and the harms of smoking, and want to separate themselves from other groups by their rejection of smoking and other unhealthy lifestyles. They have the resources to do so, so smoking rates fall among the wealthier while they remain high among the less wealthy, who are less able to quit. [11]

[a] Lysergic acid diethylamide, a hallucinogen.

These examples highlight how cultural influences on the use of specific drugs change with the historical period of concern.

Setting

Zinberg postulated that three sets of factors, namely 'drug, set and setting', need to be taken into account in explaining the patterns and consequences of drug use. [12] According to this framework, 'drug' refers to the pharmacological properties of a drug, 'set' refers to the characteristics of the person using the drug, and 'setting' refers to aspects of the social and physical environment in which the drug is consumed.

A number of researchers have argued for greater attention to setting in understanding drug-use behaviour and addressing drug problems. [13-16] For example, Rhodes and colleagues described situational factors that influenced drug-injecting behaviours in a Russian city. Such factors included fear of police detainment affecting willingness to carry injecting equipment, mistrust between drug users encouraging people to inject alone, and a lack of injecting equipment outlets for obtaining clean needles and syringes. [16]

As part of a review of the role of police in managing alcohol-related problems, Spooner and McPherson summarised research on risk factors relating to the design and management of licensed premises that had been found to contribute to violence. [17] Factors included the promotion of cheap alcoholic drinks, having a predominantly male clientele, boring music, overcrowding and high levels of intoxication. Observational research subsequently reported by Homel and colleagues also described how factors relating to the setting were associated with aggression in licensed premises. [18] These factors included 'the serving and consumption of alcohol, physical comfort, the degree of overall 'permissiveness' in the establishment, the availability of public transport, and aspects of "the ethnic mix" of patrons' (p. 28). [18] Spooner and McPherson described a range of evidence-based environmental measures that management of licensed premises could adopt to reduce alcohol-related violence in and around their premises. These included transport options such as a courtesy bus, server training, security measures such as closed circuit television and metal detectors, crowd control, for example, limiting the number of patrons, ensuring a sufficient ratio of staff to patrons, promoting low-alcohol drinks and the consumption of food, and replacing glass containers with plastic containers.

Research on the influence of the social and physical setting on drug-use behaviours emphasises the importance of shaping the environment to minimise drug problems.

Group affiliation

Drug-specific attitudes, norms and values vary with group affiliation, which can be defined by a multitude of factors such as age, religion, gender, sexual affiliation, and subculture. Drug use can be a way to fit in with, or bond with, a social group. For example, Lovato and colleagues described qualitative research indicating that experimental tobacco use was reported by young people as a way to 'fit in' with and bond with their group of friends. [19] Among homosexuals, alcohol and drug use can be a way of fitting into the 'gay scene'. This can be a potent motivator for young gay men who have recently 'come out' and want to establish a new social group that is supportive of their sexual identity. Murnane and colleagues' research with gay, lesbian, bisexual and queer communities in Victoria identified drug-use patterns that were two to four times higher than might be expected from general population surveys. [20] A number of respondents

reported greater awareness of, and access to, drugs after 'coming out' and being active in gay, lesbian, bisexual and queer communities. Some reported that drug use was 'integral to creating and celebrating a sense of community and belonging' (p. 7). [20]

Moore conducted ethnographic research of drinking among 'skinheads' in Perth, Western Australia, and noted how their culture has been shaped by an ethnic affiliation with English drinking culture. [21] He described the group's drinking style as heavy, generally in hotels, bars and nightclubs, and fairly 'unabated' from around 7 p.m. until the early hours of the morning, with heavy intoxication reached by about midnight. This pattern of drinking appeared to be conducive to interpersonal violence and was generally associated with behaviour considered to be rowdy and troublesome by the general public. A second pattern was described which was more restrained, often centred around games of pool. Skinheads rarely drank alone. To establish membership with a skinhead group, individuals shaved their head, wore Dr Marten boots and invested time and resources with the group. They did not need to drink to establish membership, but they did need to stand by their 'mates' in violent situations. However, to not drink was considered abnormal.

The cultural influences of the multiple subgroups within society cannot all be covered here. However, the above examples demonstrate that drug use is influenced by the cultural norms and values of the group(s) with which individuals identify.

Influences on drug norms, attitudes and values

Consideration of the factors that influence drug norms, attitudes and values (as described above) enables a study of how harmful cultural influences might be modified. Influences on community drug attitudes and norms include the media, legislation, marketing, broader Western culture (discussed below) and fashion trends. Below is an illustrative summary of discussions on the role of the media, marketing and fashion in relation to cigarettes and heroin.

Wakefield and colleagues conducted an extensive review of research on cigarette advertising promotions, anti-smoking advertising, product placement in movies, on television and in music media, and news coverage about smoking. [22] On the basis of the available evidence, they reached a number of conclusions about the ability of the media to shape social values about smoking and to influence smoking behaviours. For example:

> Taken together, these studies suggest that cigarette advertising and promotion probably have both predisposing and reinforcing effects on youth smoking, acting as an inducement to experiment with smoking, and reinforcing continued progression towards regular smoking among those who already have tried it. … these effects generally apply after holding constant the established influence of parental, sibling and friends' smoking. (p. 81)

On the basis of a review of anti-smoking campaigns, Wakefield and colleagues concluded that government-funded anti-smoking campaigns can reduce adult and youth smoking.

Wakefield and colleagues described how, in addition to normal advertising, films have been used as a form of 'product placement' by commercial marketers to promote brands. Portrayals of smoking in popular films were found to occur with much more frequency than could be expected on the basis of smoking prevalence in the general population. They argued that such practices can contribute to adolescents over-estimating the rate of

smoking in the community and regarding smoking as a normal behaviour. One of the few studies of smoking in movies was described:

> Compared with non-smoking scenes, smoking scenes positively aroused young viewers (as measured on a seven-point scale from 'boring' to 'exciting'), enhanced their perceptions of smokers' social stature, and increased their intent to smoke. However, showing teenagers an anti-smoking advertisement before the movie nullified these effects. Viewing a movie with the smoking scenes professionally edited out did not change the viewer's liking of the movie. (p. 90)

For further information on the role of the media in youth smoking, Wakefield and colleagues' review article is recommended. Their review describes the many ways in which the media can influence youth smoking and how anti-smoking media messages can counteract these influences. [22]

Fernandez discussed how the music industry, Hollywood movies and fashion advertising have influenced perceptions of heroin and heroin use, and how in the late 1990s this portrayal resulted in a trend whereby heroin use was fashionable, aka 'heroin chic'. [23] Fernandez argued that, of all media, film and television have been most responsible for popularising the image of musicians who were heroin addicts, such as Billie Holiday and Miles Davis, as rebel heroes. These portrayals were reportedly presented in a manner that exerted a 'powerful romantic appeal for rebellious youths in search of an identity' (p. 285). In addition, Fernandez described how a number of films (for example, Pulp Fiction, Trainspotting, The Basketball Diaries) have depicted, and in some cases glamorised, heroin use; and how the heroin use of a number of Hollywood actors had been extensively publicised (for example, Robert Downey Junior). In this context, some companies added to the glamorisation of heroin, by featuring models who looked like heroin addicts in their advertising. Fernandez discussed the controversy surrounding such a campaign by Calvin Klein.

In summary, attitudes, norms and values relating to drugs are shaped by a range of factors, including, but not restricted to, the media, marketing and fashion trends. Some of these influences are more amenable to intervention than others. Government cannot (and should not) set fashion trends, nor subvert free speech, but can contribute to media debate, place controls on product promotion and create and support legislation that addresses harmful drug use.

Western culture

This section describes how some features of Western culture have been detrimental to youth development and have contributed to negative outcomes such as youth suicide and drug abuse. Western culture also has many positive aspects and has experienced a number of positive trends. For example, Eckersley described how:

> All these cultural trends have benefits to health and well-being: consumerism has contributed to making our lives safer and more comfortable; individualism has enhanced human rights, self-determination and political participation; economism has increased economic efficiency and productivity; postmodernism is associated with greater tolerance and diversity; secularism has helped loosen the chains of bigotry and dogma. (p. 58) [1]

While we acknowledge such benefits, the focus of this section is on the negative impacts of western culture and is largely based upon the work of Eckersley, who has written extensively on how Western culture has had detrimental impacts on young people. Further details and evidence for his conclusions are provided elsewhere. [1 24] Eckersley described a number of 'isms' of modern western culture: [1]

- consumerism (often equated with materialism)
- individualism
- economism
- postmodernism
- secularism
- pessimism
- neo-liberalism.

Eckersley argued that consumerism, individualism, economism, postmodernism and secularism have had negative impacts on moral values with the blurring of personal morality into ambivalence and conflict. Materialism has been associated with social alienation, depression, anxiety and anger and negatively associated with life satisfaction. Individualism has been detrimental to the formation and maintenance of attachments. [1] Eckersley noted how these qualities of modern Western culture were particularly detrimental to young people and likely to contribute to the increases in psychosocial disorders observed among young people in the latter half of the twentieth century. Citing Furlong and Cartmel's work, [25] Eckersley described the stress, uncertainty and risk faced by young people in modern society:

> Furlong and Cartmel describe the increased sources of stress "which stem from the unpredictable nature of life in high modernity". They include the ongoing sense of doubt, the heightened sense of insecurity, the increased feelings of risk and uncertainty, and the lack of clear frames of reference that mark young people's world today. (p. 66) [1]

Building upon the work of Corin, [26] Eckersley suggested that Western culture fails to provide 'webs of meaning' that frame 'the way people locate themselves within the world, perceive the world, and behave in it'. Looking specifically at the multiplicity of possible reasons for increases in suicide rates since the 1920s, Eckersley wrote:

> I believe it is more likely that the results reflect a failure of Western societies to provide appropriate sites or sources of social identity and attachment, and, conversely, a tendency to promote false expectations of individual freedom and autonomy. (p. 68) [1]

With regard to secularism, Eckersley cited the work of Elchardus [27 28] who described the notion of 'cultural flexibility', characterised by 'religious and philosophical indifference, a "here and now" hedonism and an individualism that extends well beyond emancipation from traditional restrictions' (p. 61). [1] Elchardus found cultural flexibility to be related to low education levels, high risk of unemployment, low occupational status and low degrees of autonomy on the job. Accordingly, he argued that cultural flexibility has resulted in legitimation of increases in uncertainty and low control in the life of people from low socio-economic backgrounds. In the words of Elchardus:

> Cultural flexibility … seems to be a form of withdrawal of commitment and emotion from a social order in which one is losing out. Such a reaction cannot really be considered a form of resistance, let alone revolt, for its very form makes organised action unlikely. Cultural flexibility rather seems to be the meek acceptance of the flexibilisation of one's life for the purposes of economic efficiency and organisational control. (p. 721) [27]

More recently, Eckersley expanded upon his arguments regarding the effect of individualism and economism on morals and values:

> Modern Western culture undermines, even reverses, traditional (or universal) values. Individuals are encouraged to make themselves the centre of the moral universe, to assess everything from personal relationships to paying taxes in terms of "What's in it for me?" This promotes a preoccupation with personal expectations that keep rising and with wants that are never sated because new ones keep being created …
> Economism is important to values because economics is amoral — that is, it is not concerned with the morality of the choices consumers make to maximise their satisfaction. The more economic choices govern people's lives, the more marginalised moral considerations become. Money itself becomes the dominant value. Social status is ever more narrowly defined in terms of income and wealth, and the 'opportunity costs' of spending time on anything other than making money grow … The risks of postmodernism include an 'anything goes' morality: a belief that one set of values is no better or worse than another. Values cease to require any external validation or to have any authority or reference beyond the individual and the moment … The results of this cultural shift include not so much a collapse of personal morality as its blurring into ambivalence and conflict… (pp. 50–51) [24]

Eckersley associated these moral changes with a decline in social capital within Western societies, where social capital refers to 'the shared values and norms, trust, cooperation, civic engagement and associations which are the glue that holds societies together' (p. 53). [24]

Inspired by Eckersley, we have attempted to identify research that corroborates or negates Eckersley's arguments regarding the impacts of Western culture on drug use (below). While various elements of Western culture (for example, neo-liberalism, individualism) are inextricably linked, we look at each concept separately, to highlight particular aspects of each.

Individualism

In this section, the prevalence of individualism is presented, followed by discussion of the impacts of individualism on society and on drug use in particular. Oyserman, Coon and Kemmelmeier argued that social scientists assume that industrialised Western societies are assumed to be more individualistic (and less collectivist) than other societies. To test whether this assumption was supported by the available literature, Oyserman and colleagues conducted a meta-analysis of international research, comparing samples from 49 countries by both region and country. [29] Individualism domains included independence, striving for personal goals, competitiveness, feeling unique, liking privacy, and articulation of personal opinions. Collectivism was characterised by seeing oneself as part of a group, enjoying being part of a group, feeling duty to group members, concern

for group harmony, decision making in consultation with group members, respect for authority figures and group members, and a preference for group work. The results of Oyserman and colleagues' analysis generally supported the notion of the existence of a Western culture that values individualism and regards collectivism as less important. This was shared by 'America' (United States of America and Canada) and other English-speaking countries (New Zealand, Australia, South Africa), and Western and Central Europe, although Americans were found to be more individualistic than most others. However, there were variations within countries, and other regions were also characterised by high individualism and low collectivism. In their conclusions, Oyserman and colleagues noted that there is 'surprisingly little research' on the structures that maintain individualism and collectivism in a society. They speculated that countries that were high in collectivism made 'obligation to the group salient' and punished those who did not 'promote in-group harmony' (p. 43). Similarly, they hypothesised that individualistic societies used 'practices and symbols to make personal uniqueness salient and to punish those who do not separate themselves from others' (p. 43). If we wish to modify aspects of Western culture that are contributing to problems such as those described by Eckersley and others (above), we need to understand the structures that have created this culture.

Schwartz reviewed the impact of freedom, autonomy and self-determination on the well-being of Americans. He argued that an excess of freedom has resulted in increased dissatisfaction and clinical depression. Modernity has taught us to not accept things as they are and presumes that self-determination (freedom and autonomy) is a psychologically and morally good quality. However, we face an overwhelming range of choices with respect to the way we live our lives. Schwartz described the current situation in the United States of America as such that large numbers of people can live exactly the kinds of lives they want, unconstrained by material, economic or cultural limitations. Modern liberal culture is extremely reluctant to tell people what to do. At the same time there is an explosive growth in the number of people with depression. With reference to the psychological literature, Schwartz outlined possible contributors to this situation. First, increases in experienced control are accompanied by increases in expected control and contribute to unrealistic expectations about life. Second, increased individualism biases causal attributions towards internal rather than external causal factors. Finally, the emphasis on individual autonomy and control may be undermining commitment and belonging to social groups and institutions (an important protective factor for depression). Thus, the current psychological literature on helplessness, control and depression suggests that the influence of freedom of choice is not entirely positive, at least with respect to psychological well-being. Schwartz concluded that aspiring to a culture that offers individuals self-determination without also providing some constraints can be harmful to mental health. [30]

Individualism has been specifically linked to drug misuse. Knipe discussed how individualism has promoted risk-taking behaviour in American culture, and how this in turn has contributed to illicit drug use by disadvantaged people:

> It is through risk-taking behaviours that one can achieve recognition as an individual … By engaging in these behaviours one can accumulate "cultural capital", esteem and prestige … How this value is expressed is determined by specific opportunity structures. Being poor precludes risking a fortune on the stock market, driving a race car, or being a stunt pilot; but, within a particular setting, heroin addiction symbolically represents risky business. (p. 170) [31]

That is, illicit drug use provides an affordable means of establishing one's credentials or achieving a positive image in a society in which risky behaviour is valued.

The value placed on individualism has also contributed to community attitudes around self-responsibility, and thus influenced community policies and programs. Phipps has discussed how notions of self-responsibility have contributed to views concerning the support of people in need in different nations. [4] She noted that:

> Evidence from the World Values Survey indicates that Europeans are much more concerned about reducing overall inequality (especially in Norway and the Netherlands); North Americans do not see this as a priority, though levels of inequality are much higher in North America. North Americans (especially those who live in the United States) are more likely to perceive that individuals live in need because they are lazy rather than as a result of, for example, social injustice. This attitude permeates thinking about policy in both Canada and the United States; it is not evident for either Norway or the Netherlands. [4]

An over-emphasis on individualism and a failure to value collectivism result in society blaming people who fail at school, who are unemployed, who are homeless, who develop a drug-dependency disorder or who commit crimes. These outcomes are regarded as the results of individual choices. By blaming people for their own failure, society has little compassion for people with drug problems and takes little responsibility for assisting them. In particular, Australians appear unsupportive of programs that reduce harms associated with drug use but do not aim for drug abstinence. In the 2001 National Drug Strategy Household Survey, a substantial percentage of Australians aged 14 years and over who had never used heroin were not supportive of needle and syringe programs (41%), methadone maintenance programs (36%) or regulated injecting rooms (55%). [32] Yet each of these programs has been demonstrated to contribute to harm minimisation. [33-35] The drug-prevention slogan 'Just say no' is a clear message on self-responsibility and puts the onus on the individual. [36] By blaming individuals, society can feel justified in punitive and uncaring responses to drug-dependent people who do not say 'no' and who commit drug-related offences.

Individualism also affects community views concerning drug control. McAllister noted that the question of how much society should control individual rights underpins drug policy:

> The essential question, "to control or not to control", requires consideration of deeply held philosophical beliefs about the nature of society, human freedom and obligations to one's fellow beings. (p. 1) [37]

If we value individual liberty and individual rights, we would consider it acceptable for people to use drugs and not favour controls on drug use. Data from 2001 National Drug Strategy Household Survey suggest that attitudes towards drug controls are mixed (Table 1). For example, in relation to smoking, 93 per cent of Australians aged 14 years and over favoured stricter enforcement of laws against supplying minors and the majority of the sample favoured bans on smoking in workplaces, shopping centres, restaurants and pubs/clubs, although few smokers supported bans on smoking in pubs/clubs.

Table 1: Support for measures to reduce the problems associated with tobacco use, persons aged 14 and over, by smoking status (per cent)

Measure	Smoker	Ex-smoker	Never smoked
Stricter enforcement of law against supplying minors	84	93	93
Immediate ban on tobacco advertising at sporting events	48	69	73
Making it harder to buy tobacco in shops	29	63	73
Ban smoking			
in the workplace	55	86	91
in shopping centres	67	88	93
in restaurants	60	89	93
in pubs/clubs	21	68	76

Source: 2001 National Drug Strategy Household Survey, 2002, p. 92 [32]

In relation to alcohol, support for measures to reduce the problems associated with excessive alcohol use also varied according to the measure and whether or not the respondent drank alcohol (Table 2). The measures that received the most support were 'more severe penalties for drink-driving' and 'stricter laws against serving drunken customers'. Increasing the price of alcohol was supported by less than 30 per cent of respondents. Australians seem to favour measures that affect others more than measures that affect themselves.

Table 2: Support for measures to reduce the problems associated with excessive alcohol use, persons aged 14 years and over, by drinking status, Australia, 2001 (per cent)

Measure	Abstainers/ low-risk drinkers (per cent)	Risky/ high-risk drinkers (per cent)
Increasing the price of alcohol	29	6
Reducing the number of outlets that sell alcohol	38	12
Reducing trading hours for pubs and clubs	42	15
Raising the legal drinking age	52	25
Increasing the number of alcohol-free events	76	48
Increasing the number of alcohol-free dry zones	75	50
Serving only low-alcohol beverages at sporting events	74	47
Limiting TV advertising until after 9.30 p.m.	76	58
Banning alcohol sponsorship of sporting events	53	27
More severe penalties for drink-driving	91	81
Stricter laws against serving drunk customers	90	76
Restricting late-night trading of alcohol	63	29
Strict monitoring of late-night licensed premises	80	60
Increasing the size of standard drink labels on alcohol containers	73	58
Adding information on the national drinking guidelines to alcohol containers	78	60

Source: 2001 National Drug Strategy Household Survey, 2002, p. 93 [32]

With regard to controls on illicit drug use, Australians generally did not support their legalisation, although responses varied with the drug and the age of the respondent. [32] Support for legalisation was highest for cannabis (29 per cent) particularly among the 20–29 year age group (42 per cent). This response reflects higher levels of cannabis use compared with other illicit drugs among the general population and younger people in particular. Younger people also tend to be more tolerant in general, less respectful of traditional values or roles, and more demanding of autonomy and control than older people. [38] Less than one in ten Australians supported the legalisation of heroin (8 per

cent), amphetamines (7 per cent) and cocaine (7 per cent). The low level of support for legalisation of heroin, amphetamines and cocaine is likely related to Australians' perceptions of these drugs as causing problems for the community (Figure 2). It appears that Australians are more concerned about their individual right of freedom from harm from drug use by other people than individual rights to use drugs.

In light of the growth of, and negative impacts of, individualism, Maton has argued that society needs to be more thoughtful of others, that is, we need to become a more caring society. [39] This is further discussed below.

Neo-liberalism

Neo-liberalism is a modified form of traditional liberalism, particularly based upon a belief in free market capitalism and the rights of the individual. Many agree with Eckersley's negative view of neo-liberalism. [40-43] For example, Coburn has argued that neo-liberalism produces both higher levels of inequality and lower levels of social cohesion. [40] In a paper published in 2004, Coburn described relationships between neo-liberalism, welfare regimes and health outcomes. [41] He noted that economic globalisation has resulted in business re-emerging as the dominant class within society. This dominance is now on a global scale as well a national scale. He described how this dominance has been associated with neo-liberal policies and has resulted in a reduction in worker and citizen rights and a reduction in the welfare state. This in turn has forged increases in social inequality, poverty, income inequality and social fragmentation, which have subsequently resulted in health inequalities. However, he noted that neo-liberalism has had different effects on different nations because of national variations in class structure and the institutionalised form of the welfare regime. He described three major types of welfare state:

> the Social Democratic welfare states, showing the greatest decommodification and emphasis on citizenship rights; the Liberal welfare state which is the most market-dependent and emphasises means and income testing; and an intermediate group, the Conservative, Corporatist or Familist welfare states, which are characterised by class and status-based insurance schemes and a heavy reliance on the family to provide support. These countries might be viewed as strong, weak and intermediate or mixed-type welfare states, respectively. (p. 44)

Coburn reported that countries with social democratic forms of welfare regime have better health than do those whose focus is more neo-liberal. For example, epidemiological data demonstrate that infant mortality is lower, the potential years of life lost (number of years death occurs before age 70) are less, and the proportion of people alive at age 65 is higher in countries with social democratic regimes relative to countries with liberal regimes. He described how individuals and families in more neo-liberal societies need to rely on individually purchased health-related societal resources whereas health services are more universally available in less neo-liberal regimes.

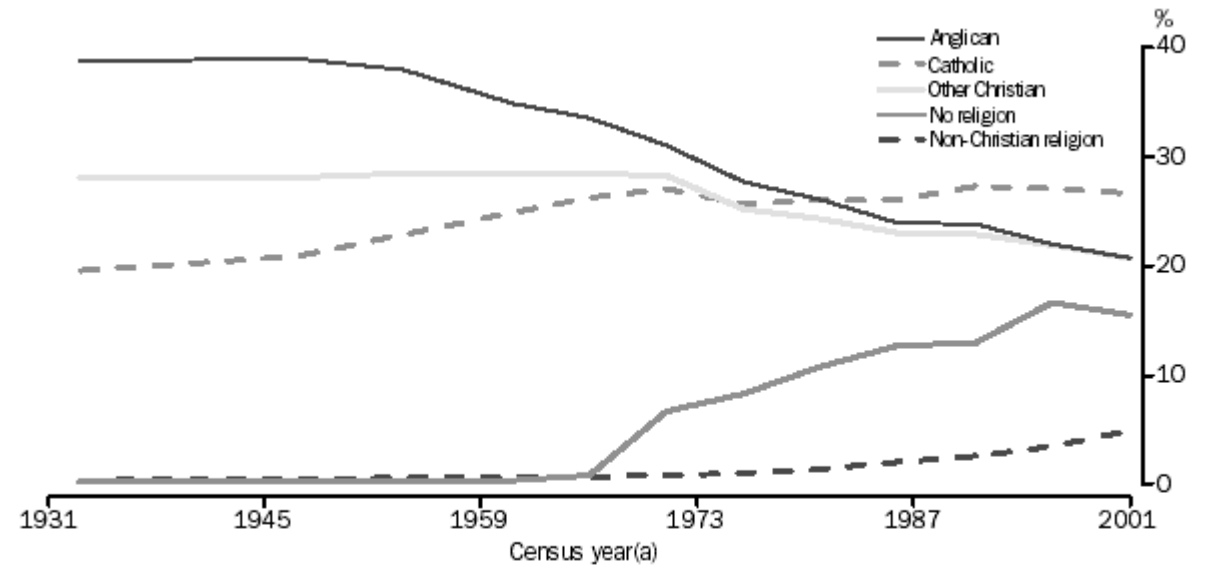
With such analyses of the negative impacts of neo-liberalism on society and health, a singular concern for economic growth, particularly in the context of the dismantling of the welfare state, appears to be misguided. We need to be more concerned with population health or at least as concerned with population health and well-being as we are with supporting business. Drug-dependent people, who are typically the most in need

of societal supports, are among the most vulnerable to reductions in the worker rights and social services described by Coburn and others.

Secularism

Secularisation refers to the declining influence of religion. [44] Giddens has reported how, with the exception of the United States of America, industrialised countries have experienced considerable secularisation. [44] He presented data that demonstrated reductions in levels of membership of religious organisations; the social influence, wealth and prestige of religious organisations; and religious values and beliefs. [44] Consistent with the trends reported by Giddens, data from the Australian Bureau of Statistics indicate an increase in the percentage of people reporting that they had 'no religion' between 1960 and 2001 (Figure 3). [45 46]

Figure 3: Religious affiliation of Australians of all ages



(a) Censuses were conducted in 1933, 1947, 1954, 1961, and subsequently at five-yearly intervals to 2001.

Source: Year Book Australia 2003 (cat. no. 1301.0) [46]

As religious organisations have lost moral authority in society, and fewer people feel concerned about 'going to hell' for 'bad' behaviour, we now rely more on formal (for example, laws) rather than informal means of behaviour control. Halpern reviewed international data on values and morals and identified a 'reduction in the universality of norms, values and constraints at the informal level' (p. 383), [38] which was manifested by greater individualism, libertarian values and higher tolerance in the personal sphere. At the same time, there has been an 'expansion in the extent of norms, values and constraints in the formal domain, most obviously in the legal sphere, but also in many other areas such as health, education and welfare' (p. 383). [38]

With the reduction in religiosity, people are looking for alternatives sources of meaning. Many are finding meaning in work. [47 48] This is likely to have contributed to the higher rates of parents working and people working long hours, [49] which in turn contributes to parents being less available to supervise their children. In the search for meaning, some people have adopted alternative religions such as Buddhism or cults, [44] while others find

meaning and a sense of belonging by following celebrities. [50-52] Some researchers have also suggested that the rise of materialism, discussed below, in part reflects this search for meaning.

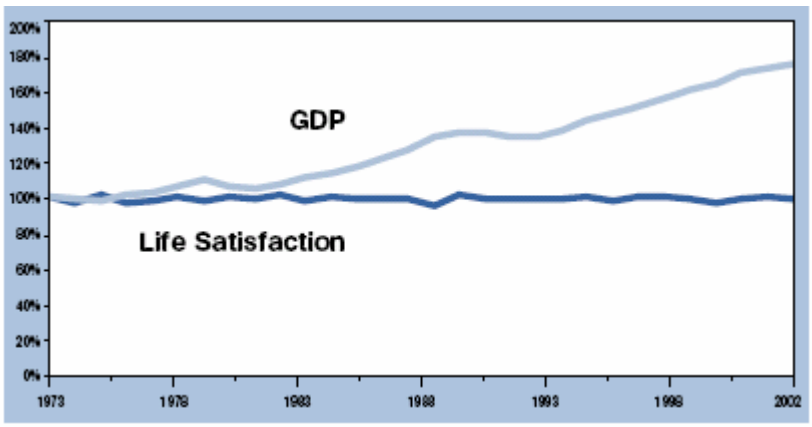
At an individual level, religiosity has been found to be protective against tobacco use, alcohol use, cannabis use and other illicit drug use. [53-59] However, the relationship between religiosity and drug use is not simple. Nonnemaker, McNeely and Blum investigated the association between public and private domains of religiosity and various adolescent health-related outcomes, [58] where public domains of religion included frequency of attendance at religious service and participation in religious youth-group activities and private domains of religion included frequency of prayer and importance of religion. Consistent with previous research, Nonnemaker and colleagues found that both public and private religiosity were protective against the use of cigarettes, alcohol and cannabis. More specifically, their results indicated that private religiosity was more protective against experimental drug use, while public religiosity was associated with regular use, particularly of cigarettes. They also found that both public and private religiosity were associated with a lower probability of having engaged in violence in the past year as well as a lower probability of having ever had sex. Only public religiosity was associated with lower emotional distress and only private religiosity was associated with a lower probability of having had suicidal thoughts or having made a suicide attempt. [58]

With the increase in secularisation, we need other ways to develop shared values, meaning in life and sources of authority, particularly for children and adolescents. This issue is discussed further below.

Materialism–consumerism

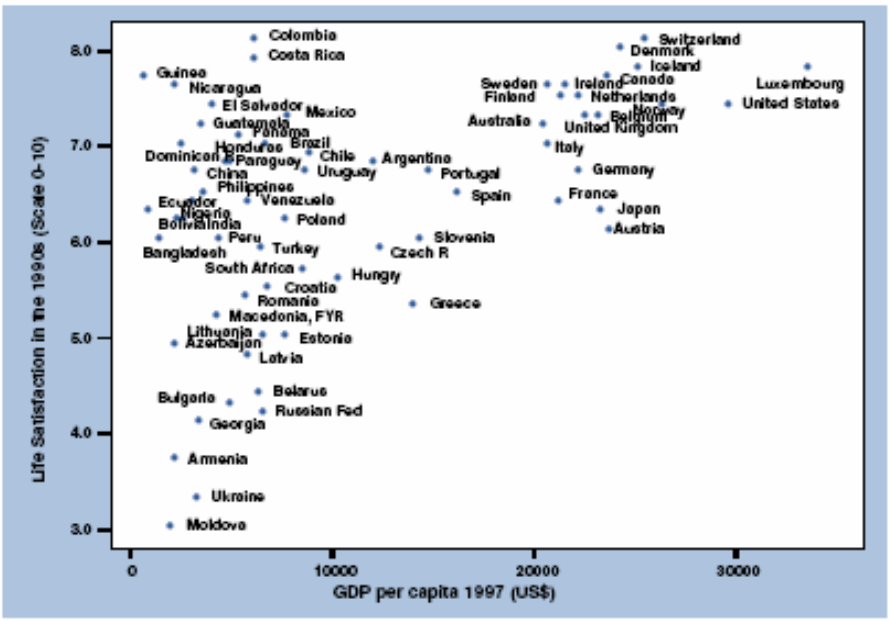
Hamilton has written extensively on materialism and consumerism in modern society. He argued that material wealth has not produced happiness, and has actually contributed to unhappiness. [42] He reported research that identified that, despite Australia being one of the wealthiest countries in the world, 62 per cent of Australians lamented that they did not have enough money to buy what they want. [60] Consistent with Hamilton's argument, the New Economics Foundation presented international data that indicated that wealth does not necessarily contribute to well-being. [61] For example, they presented data from the United Kingdom Life Satisfaction Survey that showed that increasing national wealth was not associated with an increase in life satisfaction (Figure 4). [61] A second example is provided by an international comparison of life satisfaction and national wealth, which demonstrated that people from many developing countries reported levels of life satisfaction that were the same as levels of life satisfaction reported in much wealthier countries (Figure 5).

Figure 4: National wealth and life satisfaction in the United Kingdom



Source: Shah, 2004, p. 5 [61]

Figure 5: An international comparison of national wealth and life satisfaction



Source: Shah, 2004, p. 7 [61]

Hamilton outlined what he described as the preoccupation of the modern political process with economic growth (which he calls 'growth fetishism') and noted that, despite high and sustained levels of economic growth in the West in the past 50 years, people are no more satisfied with their lives. [42] He suggested that this demonstrated that growth fetishism had for the most part failed to improve people's lives and instead had produced a seriously sick society.

> Growth not only fails to make people contented; it destroys many of the things that do. Growth fosters empty consumerism, degrades the natural environment, weakens social cohesion and corrodes character.
>
> The richest people in the world are saying they are miserable, that it's not worth it and, most disturbingly of all, that the process of getting rich causes the problems. Continued pursuit of material acquisition gives rise to inner conflicts that become manifest in society in various ways. (p. 15) [42]

Consumer capitalism's answer to meaninglessness is the seeking of a proxy identity in the form of commodity consumption.

> People continue to pursue more wealth and consume at even higher levels because they do not know how better to answer the question "What do I do now?" (p. 106)
>
> (The) preoccupation with growth and material acquisition inevitably causes consciousness to shrink. The mind that 'meditates' at the shopping mall can never expand to encompass the intrinsic values of the natural world; it can only look upon it as a mine that provides the resources to make the goods that are consumed or as a dump into which can be discarded the goods we have tired of. (p. 194)

Pitman, Herbert and colleagues argued that the focus on materialism/consumerism is likely to have contributed to the increase in the percentage of adolescents engaged in part-time work in Australia. [62] This is problematic on a number of levels. Firstly, for those who work long hours outside school, this involvement could interfere with schoolwork and homework, as well as with normal recreational and social activities. Secondly, high levels of disposable income/adolescents working represent a risk factor for drug use. [63-65] For example, Schulenberg's review of the literature identified that increased work hours during high school years were causally related to alcohol use. [66]

How can materialism, or the negative impacts of materialism, be reduced? While Eckersley [24] and Hamilton [67] have identified that there is a shift back to more community-minded, less materialistic values among some subgroups of society, this is not a basis for complacency about the issues raised above. While noting how difficult it is to change cultural norms, Shah and Marks outlined a number of areas in which policy can discourage materialism. [61] These included banning commercial advertising to under 8-year-old youth, who do not have the critical capacity to understand the false advertising claims that purchasing products will make them happier. They noted that Sweden has implemented a ban on advertising aimed at children less than 12 years. A second approach is to provide cheap options for local leisure pursuits, to engage people in activities other than watching television and shopping.

Conclusion and suggestions for cultural transformation

In conclusion, the research and debate around the impacts of Western culture suggest that Western cultural values have become increasingly influenced by individualism, neo-liberalism, materialism and secularism. While there have been some benefits from these Western cultural trends, the problems they cause need to be addressed. For example, people have become more concerned about themselves and feel less concerned about (or responsible towards) others in society who are not doing well, particularly people with drug problems. These trends can influence risk factors for drug abuse and the environment of drug users at a number of levels. At the individual level, risk factors for drug use such as social alienation can be increased and social support can be decreased. At the environmental level, social support systems can be compromised. For example, social values around individualism can (a) contribute to feelings of alienation and connectedness; (b) reduce social cohesion; and (c) influence the policies that support (or

fail to support) families and children; for example, workplace ('family friendly' or profit-driven) policies, provision of childcare, welfare policies.

Further, the negative impacts of western culture discussed above tend to be disproportionately experienced by people from low socio-economic groups, while wealthier people are able to enjoy more of the benefits of modern Western society (for example, material acquisition, personal freedoms). [68] Eckersley noted that:

> In terms of socio-economic differences, consumerism and economism, for example, would cause most stress among low-income groups because of the emphasis they place on money and material well-being. (p. 61) [1]

Maton has argued that, as the causes of social problems are contained within the social environment, we need to transform the social environment: [39]

> deeply troubled schools, violent neighborhoods, disaffected peer groups, family poverty, inadequate support systems, and limited opportunities for purposeful social engagement are some of the proximal environmental causes of urban social problems such as school failure, teenage pregnancy, delinquency and youth violence. (p. 27)

Taking an ecological perspective, he noted that the proximal social environment is influenced by the larger community environments and systems in which they are embedded:

> dysfunctional school and human service systems, lack of well-paying jobs and community resources for poor families, racial and gender discrimination, intergroup conflict and socioeconomic disparities. (p. 28)

These larger community environments are themselves embedded within larger national and international economic, political and cultural institutions and systems which constitute 'the roots of economic dislocation, discrimination, mass society, a culture of violence, and corporate greed' (p. 28). Maton argued that current attempts to address social problems are limited because they do little to affect the social environments in which the social problems are embedded. To change this environment, Maton described a 'strategic vision for social transformation' (p. 27) with four foundational goals: capacity building, group empowerment, relational community building, and culture-challenge. To achieve these goals, Maton identified four dimensions of the social environment that need to be changed: the instrumental environment for capacity building, the structural environment for group empowerment, the relational environment for community building and the cultural environment for culture-challenge. Maton's ideas for each of these environments are summarised below.

The instrumental environment comprises the core methods, problem-solving capability and leadership used to achieve core goals. For example:

> The failure of schools to adequately educate, families to socialise, human services to serve those in need, and governments to govern, for instance, are failures at the instrumental level. (p. 30)

Capacity building — a participatory, self-help, assets-based approach to enhancing instrumental capacity — was proposed as the transformational goal in this environment. Maton provided examples of capacity building within school settings (school transformation using participatory, problem-solving methods), in local communities (employing techniques such as coalition building, community-based economic development and comprehensive neighbourhood revitalisation), and at the societal level (strengths-based capacity-building social policies that regard citizens as valuable assets and as self-determining agents rather than as people with deficits, for example, the provision of resources to community groups for programs that support child, youth, family, school and community development).

The structural environment relates to the 'distribution of resources and power across groups, and the presence of viable opportunity structures that allow disenfranchised groups access to valued resources' (p. 33). Maton noted that: 'Where large discrepancies in resources and power exist, and opportunity structures are inadequate, a debilitating sense of powerlessness, and ensuing negative social outcomes, may be expected' (p. 33). Thus, increasing the access of marginalised groups to economic, political and psychological (for example, self-efficacy and self-esteem) resources is critical for achieving social transformation.

Maton provided examples of strategies for empowerment at the level of community settings. These included participation in a variety of voluntary associations; social action approaches, such as grass-roots organising or participatory action research; and social movements such as the women's movement. Maton emphasised the valuable contribution that academics can make at each level, through the 'provision of ideas and data that help fuel activism'. In this regard, the funding of drug user groups in Australia, such as the New South Wales Users Association and the Western Australian Substance Users Association, is a valuable strategy towards empowering drug users in society.

The relational environment encompasses the quality and nature of inter-group and personal relationships. Maton noted that:

> social environments characterised by high levels of support, belongingness, cohesion, cooperation and trust contribute to positive socioemotional and behavioural outcomes … a basic cause of many social problems, and a contributing factor to their apparent intractability, is a serious weakening in the overall social-relational fabric, i.e. the erosion of community. (p. 36)

Maton provided examples of various approaches being pursued at the setting level, including schools where cooperative norms and practices have been shown to make a difference in the development of a supportive school community, and geographic communities where opportunities for connectedness have benefits for all involved, including those who have been traditionally disconnected (for example, mentor programs and home-visiting programs for isolated or at-risk families). Maton argued that, if a critical mass of such programs can be achieved, the level of connectedness between all residents of a community should be enhanced. He noted, however, that a major challenge in relational community building is connecting the many different groups within a community that might be antagonistic towards each other. Towards this end, he suggested encouraging opportunities for inter-group contact and identifying and encouraging leaders whose vision and practices encompass the whole community.

The cultural environment encompasses the belief systems, values, norms, traditions and practices of society. Maton argued that two facets of American culture 'other-denigration and self-absorption' (p. 39) underlie many social problems. This argument appears to be relevant to other Western cultures such as Australia. In such a culture people who are regarded as different are denigrated and regarded as inferior. A culture of privilege further compounds the problem. Self-absorption, due to 'excessive consumerism, individualism, and careerism, severely limits our potential to mobilise social and economic resources for the larger, public interest' (p. 39). Maton noted that challenging these cultures is difficult as they are so ingrained. However, he provided some examples of structures that can contribute to culture-challenge including progressive social action or political groups and religious organisations that advocate social paradigms counter to the cultural mainstream. He highlighted the role that 'new social movements' have played in recent decades to raise concerns about the role of women, the environment and human rights. Maton argued that social scientists can contribute by being active in such movements and engaging in public debates.

Maton has provided a wealth of ideas for addressing the problems associated with Western culture discussed in this chapter. His recommendations (for example, the need to create supportive and inclusive communities) are relevant to preventing problematic drug use as well as assisting drug-dependent people. The transformation of these ideas into action is not somebody else's job. It requires the concerted effort of academics, policy makers, politicians, service providers and every member of a community.

Social categories and social exclusion

As discussed in the introduction to this chapter, the term 'social structure' can refer to the roles, relationships and domination associated with societal categories such as class, gender and race or ethnic group. The impacts of these categories on health in general and drug use in particular are discussed in this section. First, however, a discussion of the impacts of discrimination and social exclusion on health and drug use is presented. The experiences of discrimination and social exclusion can result from one's class, gender, ethnic group or other characteristics used to classify individuals in society, including drug dependence.

People experience prejudiced attitudes and negative discrimination for a number of reasons. Specific forms of prejudice include racism and sexism. People also experience prejudice because they are unemployed, homeless, have a mental health problem or a drug-use disorder.

Krieger reviewed the literature on the impact of discrimination on health and identified that discrimination appears to be detrimental to physical and mental health. [69] She explained that the relationship is not clear and appears complex; however, discrimination is likely to affect health via exposure, susceptibility and responses to:

- economic and social deprivation
- toxic drugs and hazardous conditions
- socially inflicted trauma
- targeted marketing of legal and illegal drugs and other harmful commodities
- inadequate health care.

One of the impacts of discrimination can be social exclusion, which is a process by which people are denied the opportunity to participate in society and are unable to

contribute to society. [70] Social exclusion is now regarded as an important health risk factor, [71] as demonstrated by the establishment of the Social Exclusion Unit by the United Kingdom Government. [72]

A substantial body of research literature highlights how drug-dependent people tend to be marginalised, which can contribute to a vicious cycle of disadvantage, discrimination and drug abuse. [73-75] For example, Ritson described how stigmatisation of drug-dependent people, based upon the belief that drug dependence is the fault of the individual, can create a barrier to seeking treatment. [76] Room reviewed the literature in this area and described a number of ways in which drug-dependent people are marginalised:

- In a 14-country study by the World Health Organization, disapproval was stronger for being a 'drug addict' than for having a criminal record for burglary.
- Studies from the United States of America, Britain and Australia indicated that the general population thought that smokers, 'high' alcohol users and illicit drug users should all receive lower priority in health care. Studies of health care provision demonstrate, in fact, that inferior care is given when the patient is regarded as a 'skid-row drinker'.
- People in treatment for drug-dependence problems demonstrate substantial social marginalisation: they tend to be unemployed or in marginal jobs, to be divorced or separated, to be homeless. [73]

Room described the marginalisation of drug-dependent people as coming from multiple sources, including family friends, social agencies, and policies at the local, state or national level. For example, Room noted: 'policy decisions to be "tough on drugs" always carry the potential to marginalise those who do not conform' (p. 10). [73]

The issue of stigmatisation is also relevant for young people who might not have a drug-dependency problem. Kaplan and Johnson found that the strongest predictor of increased drug use among young people was the effects of specific labelling as a 'drug user'. That is, drug use increased as a result of getting into trouble because of initial drug use. Kaplan and colleagues explained that negative social sanctions (labelling) led to an escalation of drug use via three paths: (a) by perceiving the label of 'drug user' as a positive thing, young people who use drugs can have a more positive self-evaluation and greater self-acceptance; (b) having been alienated by society because of being a drug user, the young person loses motivation to conform to that society; and (c) having been alienated by society because of being a drug user, the drug user has less opportunity to socialise with non-drug-using groups, hence greater opportunity and encouragement to use drugs. Being labelled as a 'drug user' is a powerful phenomenon that can give adolescents the identity they have been searching for, as per their developmental task. By serving the purpose of supplying a ready-made identity and social group, such labels can contribute to youth drug use. [77]

In summary, it is apparent from the research literature that drug users can be labelled, stigmatised and often marginalised. Labels can contribute to self-identify; marginalisation can affect the availability of social supports, the quality of service provision and treatment seeking. Consequently, labelling and marginalising drug users can exacerbate drug-use problems.

Class

The relationship between class and health is well established. [78] [79] Najman and Davey Smith outlined the findings regarding class-related health inequalities on which there is general agreement [80].

- Social classes live in significantly different worlds. Almost every domain of life is associated with class location.
- Class-related inequalities in mortality rates are observed in almost every country for which data are available.
- These inequalities in mortality are observed for causes of death that make up well over three-quarters of all deaths.
- These inequalities are found for all age groups from infancy to childhood, adolescence, adulthood and old age.
- The magnitude of these inequalities varies from country to country, as well as over time in particular countries, and many reflect differing magnitudes of socio-economic inequalities or levels of social investment.
- Social class and socio-economic and income inequalities are all distal predictors of health inequalities. Lifestyle and behaviours have been the most researched proximal factors associated with premature mortality.
- More recent research has identified socio-economic inequalities acting during the foetal and childhood period as contributing to adult health inequalities (p. 3). [80]

As summarised by Wilkinson and Marmot, the effects of social position impact all people across the life course and along the gradient from the poorest to the wealthiest, resulting in what is known as the 'social gradient':

> Poor social and economic circumstances affect health throughout life. People further down the social ladder usually run at least twice the risk of serious illness and premature death as those near the top. Nor are the effects confined to the poor: the social gradient in health runs right across society, so that even among middle-class office workers, lower ranking staff suffer much more disease and earlier death than higher ranking staff. (p. 10) [71]

Graham presented an overview of the multiple models of social determinants of health, and noted a common pattern whereby social position is the point of each model at which societal resources enter and affect the lives of individuals. Societal resources include 'social resources like education, employment opportunities, and political influence, as well as material resources like income and property' (pp. 107–108). [2] Further, social position then influences access and exposure to a set of intermediate factors that affect health, in the social and material home environment, community environment and work environment. Because of the importance of social position to determining access to resources that are important at every point of the causal chain to health outcomes, Graham described social position as the 'fundamental social cause of health' (p. 112). She noted that research on social position to date has focused on socio-economic position, but should be broadened to encompass ethnicity, gender, sexuality and any other factor that determines social position.

Many sociologists have moved away from structuralist approaches. Furlong reviewed discussions of the move away from class structure towards individualism. [81] Furlong found little evidence to support abandoning the notion of class effects, but noted that

belief in the power of individuals over and above class effects has, in fact, resulted in individuals feeling unduly responsible for personal failures:

> there is little evidence to suggest that class inequalities are weakening on an objective level; indeed, structural changes have been associated with the risk of long-term unemployment and social exclusion for some young people, while even those from relatively advantaged social backgrounds experience discontinuities. On the other hand, there is evidence that class cultures are weakening and that the subjective experience of risk is present throughout the class structure. In these circumstances, a process of individualisation can be identified in which young people increasingly hold themselves responsible for their fate in the labour market, rather than being able to acknowledge the extent to which broader structures of power and inequality affect their life chances. (pp. 596–597) [81]

While substantial attention has focused on the effects of low socio-economic status on drug use, health and well-being, this does not mean that people in higher socio-economic groups do not have drug-use problems. In fact, Luthar discussed evidence of problems among affluent youth in relation to drug use, anxiety and depression. [82] For example, Luthar noted that data from the Monitoring the Future study in the United States showed that the Grade 12 students from high socio-economic backgrounds reported the highest rates of use of cannabis, inhalants and tranquillisers. After reviewing the literature, Luthar concluded that two main factors appear to be associated with higher rates of drug use, anxiety and depression among affluent youth, namely, excessive pressures to achieve and physical and emotional isolation from their parents. Further, Luthar noted that classism can be directed at the rich, who are as concerned with being liked as anyone else. On the costs of material wealth, Luthar stated:

> At the individual level, inordinate emphasis on material success can limit attainment of other rewards critical for well-being, such as close relationships. At the community level, material affluence can inhibit the formation of supportive networks, as services tend to be bought and not shared. At the systemic level, the subculture of affluence emphasises personal autonomy and control, with the associated dangers of blaming oneself when control is not achieved. (p. 1590) [82]

Thus class impacts in complex ways on drug use, health and well-being. The impacts of socio-economic position on drug use are described in Chapter 3.

Graham suggested a number of policy implications relating to the importance of social position for health that are relevant to minimising drug problems. [2] First, health policy targets should aim not just to improve health, but to reduce inequalities in the distribution of health outcomes. For example, it is not sufficient to aim to reduce population smoking rates if smoking rates are higher among particular social categories. Targets need to be set to reduce the inequalities in smoking. Second, while health programs targeted at disadvantaged groups are an important element of an equity strategy, they are not sufficient, as they do not address the factors that create the inequality in the first place. Employment and fiscal policies and the provision of public housing, education and social security are needed to improve the living standards of the disadvantaged.

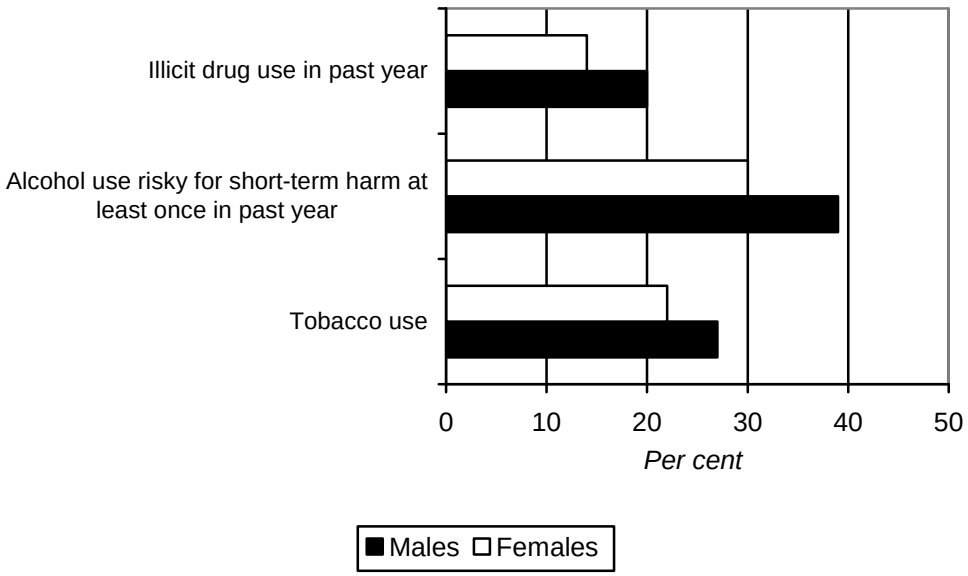
Gender

Rutter, Caspi and colleagues noted that scientists have differentiated between 'sex differences' (denoting differences with a biological origin) and 'gender differences' (differences with a socio-cultural origin). [83] They argued that it is artificial to separate biological and socio-cultural origins, as they are not independent. Consequently, they use the terms 'sex' and 'gender' interchangeably. Accordingly, the terms are used in this undifferentiated manner in this report.

Description of differences

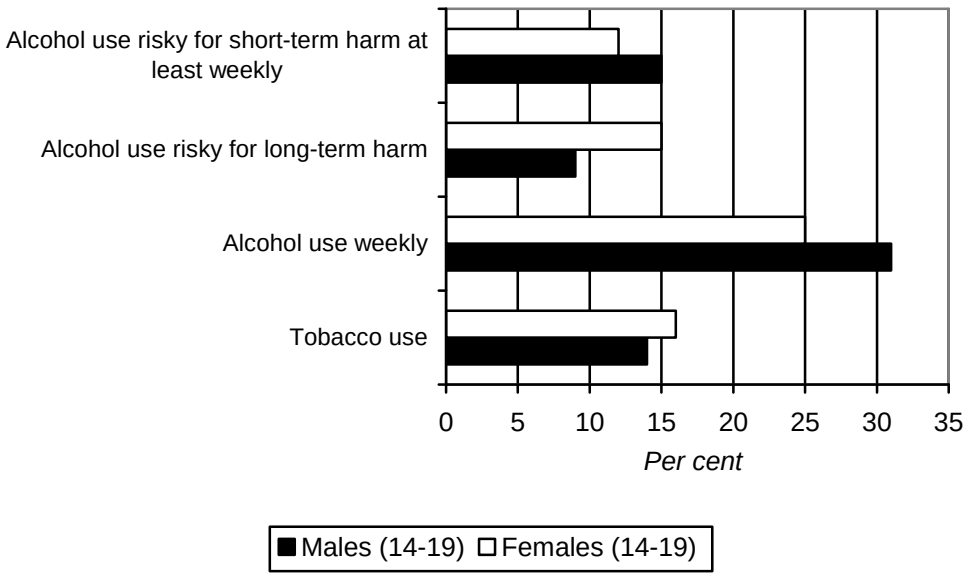
Gender differences exist in relation to most health and well-being outcomes. For example, women live longer than men, [84] males are more likely to engage in antisocial behaviour, [85] and the pattern and onset of psychiatric disorders differ with gender. [83] Drug use and drug outcomes also differ by gender. For example, data from the National Drug Strategy 2001 Household Survey, illustrated in Figure 6 and Figure 7, identified generally higher rates of drug use among males than females. [6] An exception to this pattern was alcohol use that placed the drinker at risk of long-term harm was higher among adolescent females than males.

Figure 6: Drug use by gender, Australians aged 14 years and older



Source: National Drug Strategy 2001 Household Survey, 2002 [6]

Figure 7: Drug use by gender, Australians aged 14–19 years



Source: National Drug Strategy 2001 Household Survey, 2002 [6]

Gender differences in drug use are also evident internationally. For example, Wilsnack and colleagues analysed data from general population surveys on drinking in ten countries (Australia, Canada, Czech Republic, Estonia, Finland, Israel, Netherlands, Russia, Sweden and the United States). Where data were available, they compared percentages of men's and women's alcohol use in terms of lifetime abstainers, current drinkers, mean monthly frequency of drinking, millilitres of ethanol per occasion, heavy drinking, intoxication, family problems, occupational problems and morning drinking. Men were less likely to be lifetime abstainers than women, and male drinkers drank more frequently, in larger amounts and with higher rates of adverse consequences than female

drinkers. [86] The pattern of gender differences was fairly consistent across the ten countries examined.

Gender differences also exist in specific drug-use behaviours. For example, a number of studies describe differences between the drug-use behaviour of male and female injecting drug users. Evans and colleagues described how female injectors in San Francisco were more likely to be injected by another person than male injectors, even after adjusting for years injecting, being in a relationship with another injecting drug user, and other potential confounders. [87] Whynot summarised literature on the social context of risk for women who inject drugs, and argued that the experience differed for women relative to men. Whynot noted differences in the influence of sexual and physical victimisation, violence, comorbid emotional or psychiatric conditions and social networks. For example, women's drug injection practices were more likely to be affected by close personal relationships than men's, with women less likely to inject alone, more likely to have an addicted partner and more likely to be injected by a partner than men. Whynot noted that gender also affects the ability of women to utilise treatment programs due to social and legal concerns and issues relating to care of children. [88]

Problem behaviours and outcomes associated with drug use also differ by gender. For example, a study of income generation by heroin users in south-western Sydney identified that, while males and females were equally likely to commit property crime to generate income (38 per cent), males were more likely to generate income from involvement in the drug market than women (52 per cent compared with 24 per cent), while women were more likely to generate income from prostitution than men (16 per cent compared with 1 per cent). Women who are drug-dependent are more likely to report experiences of sexual assault [89] and have higher rates of psychiatric morbidity than drug-dependent men. [90 91]

Thus, gender differences exist in patterns of drug use, related behaviours and outcomes. However, gender differences in patterns of drug use are complex (favouring males in some instances, females in others) and are converging over time. [92 93]

Explanations for gender effects

Rutter, Caspi and Moffitt discussed how reported gender differences in psychopathology (including drug and alcohol use disorders) can result from the complex interaction of a combination of factors, including methodological artefact, genetic differences and their consequences, differential exposure to social factors and differential responses to risk factors. [83] Methodological artefacts include, for example, differential reporting by males and females and differential presentation of symptoms by males and females in regard to the same underlying disorder. Consequences of being genetically male or female include, for example, gender differences in patterns of maturation, cognitive styles and risk taking. Examples of differential exposure to social factors include differential parenting and social responses to behaviours, different friendship patterns and different styles of peer groups in adolescence for males and females. Differential responses to risk factors include, for example, greater sensitivity among women to stresses involved in getting on with other people, greater sensitivity among men to divorce/separation and to work problems, and stronger risks for suicide in males than in females after unemployment and retirement. [83]

Denton, Prus and Walters tested the impacts of differential exposure to risk factors and differential vulnerability to risk factors on gender differences in health using Canadian National Population Health Survey data. [94] They identified both differential exposure and differential vulnerability and concluded that the social structural and psychosocial determinants of health were more important for women and that behavioural determinants were more important for men:

> That is, our findings show that the pathways through which structural, behavioural and psychosocial forces influence health are different for men and women. The exposure hypothesis proposes that gender-based health inequalities are largely the result of the differing social locations of men and women, their differing lifestyle behaviours and the differing number and levels of chronic stressors and life events experienced by men and women. Nonetheless, gender differences in health are only minimally reduced by controlling for exposure to structural, behavioural and psychosocial forces; significant gender differences remain. The vulnerability hypothesis proposes that women's health differs from men's because they also react in different ways to factors that determine health. While we found that there is considerable commonality in the social predictors of health, there are indeed important gender differences. First, age, family structure, main activity, education, income, occupation and social support are important structural determinants of health for both genders, although their effects differ for men and women. Second, smoking, alcohol consumption and physical activity are more important determinants of health status for men and body weight is more important for women. Third, the impact of childhood/life events, chronic stressors and psychological resources play an important role in determining health, but their effects are generally stronger for women than men. (p. 2598) [94]

Thus, differential exposure to risk factors and differential responses to risk factors influence gender differences in health and drug use. Looking specifically at gender differences in youth drug-use patterns, the Health Education Unit reviewed the literature and identified a number of ways in which gender-specific norms and expectations affect youth drug use. [95 96] For example, in the context of social value placed on slenderness for females, research has shown that teenage girls who express weight concerns are more likely to smoke, and to see smoking as a means of weight control. The Health Education Unit noted that tobacco marketers have identified and capitalised on this: 'Specific brands and marketing strategies recruit females to smoking through the promise of freedom, self-confidence and slimness' (p. 27). [95]

Gender-specific social influences are changing, and this process is likely to be contributing to the telescoping effect (reduction in the male–female differences in drug-use patterns) that is evident. Aube, Fleury and Smetana described three major changes experienced by women in the past 50 years: increased participation in the paid labour force, changes in domestic labour and childcare patterns, and increased numbers of female-headed single-parent families. [97] For example, they described the increases in the participation of women in the workforce, increases in education levels, and marrying and having children later in life. However, they noted that women still earn less than men and are more likely to be employed in lower-status temporary and part-time positions than men. After reviewing the evidence on the impacts of female participation in the workforce, Aube and colleagues concluded that the increased participation in work was not harmful to the mental or physical health of women or to the adjustment of children.

However, they did recommend continued affirmative action policies to address gender inequities in pay and status, more and generous leave provisions and workplace policies (for example, flexible time) to assist women to balance work and family life.

While women have increased their role in the workplace, they have continued to retain most of the responsibility for domestic duties, resulting in lower levels of marital satisfaction and higher levels of psychological problems among women than men. Policies that enable men to also participate more fully in domestic life (such as generous leave and flexible hours) were proposed by Aube and colleagues to encourage males to share the burden of domestic duties, including raising children. However, they noted that, even when such policies exist, men are slow to utilise these programs and increase participation in domestic duties. Aube and colleagues asserted that: 'It is clear that dramatic attitudinal change is necessary if greater domestic equality is to be achieved and that such change needs to begin at an earlier age' (p. 645). School programs teaching parenting skills to boys were suggested as one means to achieve such cultural change. Aube and colleagues discussed the increased rate of sole-parent families and the finding that children of these families are more likely to have psychological and behavioural problems, largely due to the post-separation/divorce poverty, paternal absence and continued parental conflict. Various policy initiatives to address these outcomes were proposed, including enforcement of paternal child support, promoting paternal involvement with children after divorce/separation, and school programs to assist children who experience post-divorce/separation conflict. The issue of sole-parent families is discussed further in Chapter 6.

In summary, there are a multitude of gender-related differences in the risk factors for drug use, drug-use behaviours and drug-related problems. Social trends are changing the nature of these gender differences. Drug prevention and treatment programs need to appreciate the biological differences and different social contexts that influence male and female drug-use behaviours and experiences. Social and workplace policies need to address differential exposure and susceptibility to risk factors.

Ethnicity

Australia is an ethnically diverse country. Since British settlement in 1770, Australia has experienced a series of waves of immigration from different countries and for different reasons. For example, following the Second World War Australia negotiated agreements with other governments and international organisations in an attempt to achieve high migration targets. These agreements affected residents of a number of European countries, British and American ex-servicemen, and displaced persons from refugee camps in Europe. In addition to planned migration agreements, economic and humanitarian events around the world subsequently influenced the size and source countries of the Australian program. For example, Australia accepted significant intakes of refugees from Hungary following unrest in 1956, from Chile following the overthrow of the Allende government in 1973 and from Indo-China after the end of the Vietnam War in 1975. [98] Consequently, we have an ethnically diverse population, and each ethnic group has a different history (and level of acculturation). At the time of the 2001 census, 22 per cent of the Australian population was born overseas — 11 per cent in Europe, 5 per cent in Asia and 1 per cent in the Middle East and North Africa. The Australian population reported over 200 different ancestries and 20 per cent of the population reported speaking a language other than English at home. [99] Given the above statistics, it is clear that ethnicity is not a dichotomous concept of ethnic–non-ethnic, nor a continuous variable from low to high ethnicity.

Pearce described how the concepts of genetics, race and ethnicity are commonly confused. [100] Race is usually used to denote biological differences between major racial groups: Africans, Caucasians, Pacific Islanders, Asians and Native Americans. However, Pearce and colleagues noted that human races 'are not and never were pure, and such broad continental groupings explain little in terms of the overall genetic variation of humanity' (p. 1070). [100] Further, he argued that any impacts of genetic factors related to race on health are far outweighed by social, economic, cultural and political factors. To illustrate this point, Pearce provided the example of a New Zealand study of alcoholism. The study looked at a health-related genetic difference in the form of the ADH2-2 gene which is believed to protect against alcoholism. This gene was found to be relatively common in Maori people but not found in European New Zealanders. However, alcohol-related health problems were found to be more common in Maori than European New Zealanders. Pearce and colleagues suggested that the 'hypothesised protective genetic factors are being outweighed by social, economic, cultural and political factors' (p. 1071). [100]

Pearce and colleagues described ethnicity as 'a complex construct that includes biology, history, cultural orientation and practice, language, religion, and lifestyle, all of which can affect health' (p. 1071). [100] They argued that ethnic differences in health have little to do with genetic factors, and are largely related to lifestyle differences (including tobacco, alcohol and drug use), which are determined by historical, cultural and socio-economic factors. For example, European colonisation of the Pacific and America since 1492 resulted in the decimation of many indigenous peoples, largely due to the importation of communicable diseases. However, where indigenous peoples were able to retain their land, so their economic base, food supply and social networks were not severely disrupted, the death rate was relatively low. Pearce and colleagues argued that this demonstrated the importance of environmental factors over genetic factors in ethnic differences in health.

Drug use can vary between ethnic groups. [101] For example, the National Drug Strategy 2001 Household Survey identified that people whose main language spoken at home was not English were less likely to drink alcohol, smoke tobacco or use illicit drugs than people who mainly spoke English at home. [102] However, differences in drug use by ethnicity can vary with factors such as the ethnic group, the indicator (for example, country of birth, main language spoken at home), the group's specific history (for example, the reason for immigration and the level of acculturation), the geographic location of the ethnic group, the historical time of the study and the drug in question. For example, while the National Drug Strategy 2001 Household Survey identified lower rates of illicit drug use among people whose main language spoken at home was not English, higher rates of problems relating to illicit-drug use have been identified among Vietnamese communities. [103] [104] As was argued by Pearce and colleagues in relation to health (above), ethnic group differences in drug-use patterns and drug outcomes are likely to be due to social environmental factors rather than genetic factors. After reviewing the literature on social determinants of tobacco, alcohol and illicit drug use, Galea, Nandi and Vlahov concluded that:

> while there are racial/ethnic disparities in substance use, most studies suggest that these differences are attributable primarily to differences in socioeconomic status or to availability of drugs rather than to race/ethnicity itself. (p. 41) [105]

Similarly, Beyer and Reid concluded from their review of literature relating to ethnicity and illicit drug use that socio-economic status rather than ethnicity was the major contributor to high-risk illicit drug use: [104]

> while there is a severe drug problem among sections of the Vietnamese community … it is directly related to the degree of socioeconomic disadvantage they experience. That is, the greater the disadvantage, the higher the likelihood of an illicit drug problem. (p. 14) [104]

However, socio-economic status is not the only issue for ethnic communities who have migrated to a new country. Experiences relating to being a refugee can be important in relation to drug use. While scant data are available on rates of drug use among refugee populations in Australia, a Victorian report on illicit drug use among ethnic communities concluded that new migrants experience additional vulnerability related to coping with the refugee experience and life trauma, and that this was a key reason for involvement in illicit drug use. [104] They outlined a number of aspects of the refugee experience that could contribute to drug use, including experiences that resulted in the decision to leave home (for example, war or political persecution), the process of leaving (for example, the loss of family, possessions and status), spending time in refugee camps (for example, violence and trauma) and the process of adjusting to life in a new country (for example, lack of English proficiency, diminishing employment opportunities for unskilled labour, poverty, lack of access to culturally appropriate services, cultural and generational conflict). Research from the United States of America has indicated that the onset of drug dependence among migrants may be delayed for five to ten years after migration (in contrast to depression, which occurred immediately after migration). [106]

A body of research, mainly from the United States of America, has drawn attention to the impact of acculturation on drug use. [107-111] Length of time in a new country, particularly when conditions are hostile, has been associated with increased drug use. Delgado reported research from the United States which indicated that differential family acculturation and role reversal or loss of parental control over adolescents by parents who were less acculturated than their children was associated with youth drug abuse. [112] However, this is a complex issue and generalisations across ethnic groups from and in different countries cannot be made.

On the other hand, belonging to a minority ethnic group can also have some benefits in relation to drug use. For example, on the basis of their research on drug use by different ethnic communities in Sydney, Rissel and colleagues concluded that the parenting strategies of some migrant communities (positive parental modelling, active parenting including awareness of or supervision of student leisure time, strict rules about not smoking and less pocket money) might have a beneficial role for drug prevention. [113 114]

In summary, racial or ethnic differences in drug use and health are largely a result of historical, cultural and socio-economic factors that are specific to each ethnic group and the host environment and can vary across time. The impact on drug use of belonging to an ethnic group appears to be influenced by structural factors that differentially affect the exposure of the ethnic group to drug risk factors, particularly those relating to socio-economic status. Structures that affect socio-economic disadvantage among ethnic groups include policies relating to the recognition of overseas educational qualifications, and equal opportunity policies, legislation and enforcement.

Maton (summarised above) argued that, as a society, we need to have more respect and appreciation for other cultures in our society. [39] Geronimus (Professor of Health Behaviour and Health Education, University of Michigan) argued that social policies not only need to address disadvantage among ethnic groups, but also need to be careful not to exacerbate existing problems among ethnic groups:

> to think about social policies, to think about them in terms of how they affect different populations economically of course and in terms of their environment and environmental hazards in their residential environment and work environments, but it also means thinking about the ways in which social policies exacerbate the need to do this high effort coping, to what extent do they fragment already overburdened local social networks, to what extent do they cause psychosocial stress by being implicitly, sometimes explicitly racist, but other times inadvertently racist. To what extent are they affecting the psychosocial conditions of life as well as the material conditions? And bearing in mind always that it is local networks who are taking care of these huge caretaking needs, and so policies need to be particularly as sensitive to not disrupting those networks and if there are ways to support them doing that. [115]

The Australian Government's policy on multiculturalism emphasises civic duty to support freedom, equality and diversity; respect of people's rights to express their culture; a right to fair participation without discrimination; and acknowledgement of the benefits to all Australians from diversity.[b] The *Racial Discrimination Act 1975*[c] makes racial discrimination unlawful in Australia. However, some have argued that recent events in Australia such as holding children in detention and the limitations placed on asylum seekers for temporary protection visas suggest that Australian's attitudes and behaviours are not as accepting and fair as they could be. [116 117] At an individual level, such experience can be stressful and psychologically damaging, [118 119] which could contribute to individual risks of drug abuse. At a community level, these events can foster racism and inhibit social cohesion, which can contribute to the stress levels of ethnic groups as well as reducing the likelihood that they will actually receive equal employment opportunities — a further risk factor for drug abuse. There appears to be room for improvement in Australian social attitudes, policies and behaviours in relation to ethnic minorities, who can suffer disproportionate discrimination, unemployment, stress and drug-use problems.

The social, economic and cultural characteristics of society

The term 'social structure' can be used to refer to the social, economic and cultural characteristics of society. These characteristics will vary with the level of society under investigation: local, national or global. This section will examine some characteristics of society, at a local-community level and at a global level, that have been considered important for health and well-being, and are likely to influence drug use and drug-use outcomes.

Local community: psychosocial characteristics

Community can be defined by geography (local neighbourhood or city) or by social networks, for example, the 'gay community'. This section is concerned primarily with

[b] See http://www.immi.gov.au/multicultural/australian/index.htm
[c] See http://scaleplus.law.gov.au/html/pasteact/0/47/top.htm

geographically defined local communities. Community characteristics include psychosocial (discussed in this section), economic (discussed in Chapter 4) and physical (discussed in Chapter 5) domains. As noted in Chapter 1, the interest of social epidemiologists in community-level risk factors for health has origins in the 1800s. Kawachi and Berkman cited Durkheim's book on sociological method, first published in 1895, to describe the importance of group effects:

> The group thinks, feels and acts entirely differently from the way its members would if they were isolated. If therefore we begin by studying these members separately, we will understand nothing about what is taking place in the group. (p. 129) [120 1982]

Psychosocial characteristics of communities that have received a substantial amount of attention in the past decade are the concepts of social capital, social cohesion and collective efficacy. These are defined and discussed below.

Definitions

The conceptualisation and measurement of social capital and social cohesion are subjects of considerable debate. The terms are sometimes used interchangeably (for example, the World Bank uses the term social capital as a synonym for social cohesion [121]), whereas according to some other definitions one is a subset of the other (for example, Kawachi and Berkman describe social capital as a subset of social cohesion [122]). A maze of definitions and discussions of social capital and social cohesion exists in the research literature [99 121 123-127], but we consider the description by Kawachi and Berkman, which incorporates both terms, to be the most useful. According to Kawachi and Berkman, social cohesion is about connectedness between and support for community members:

> Social cohesion refers to the extent of connectedness and solidarity among groups in society … According to Durkheim, a cohesive society is one that is marked by the abundance of "mutual moral support, which instead of throwing the individual on his own resources, leads him to share in the collective energy and supports his own when exhausted". (p. 175) [122]

Specifically, social cohesion comprises the absence of latent social conflict and the presence of strong social bonds. Forms of social conflict identified by Kawachi and Berkman included 'income/wealth inequality; racial/ethnic tensions; disparities in political participation; or other forms of polarization' (p. 175). Strong social bonds are indicated by three features of society:

1. social capital: trust and norms of reciprocity and mutual aid
2. civil society: a network of voluntary associations that:

   > hold society together … keeping individuals from becoming isolated, protecting them from the state, meeting needs that cannot be filled by government, and encouraging more active engagement in the life of the community whilst preserving a degree of choice (p. 179)

3. institutions of conflict management such as a responsive democracy and an independent judiciary.

Thus, according to Kawachi and Berkman, social capital is a component of social cohesion. They emphasised that these concepts are collective, and need to be distinguished from individual-level concepts such as social support and social networks.

Much of the recent focus in the literature has been on social capital. The value of this concept has been criticised. [128-130] Whitehead and Diderich have observed:

> The academic debate on the relation between income inequality, social capital and health has become something of a minefield, with considerable skill required to tip-toe through the conflicting evidence. (p. 165) [131]

In their review of the utility of social capital in research on health determinants, Macinko and Starfield concluded that:

> There does not appear to be consensus on the nature of social capital, its appropriate level of analysis, on the appropriate means of measuring it. There seems to be even less clarity on precisely how it might be related to inequalities in health outcomes. (p. 410) [130]

Some critics have argued that the term 'social capital' no longer be used because it is 'obscure in its conceptualisation, varied in its utility and contradictory in its empirical results (p. 161) [128] and does not improve upon older concepts such as 'community capacity' and 'empowerment'. [128]

Further, as noted by Sampson, social capital is not automatically a positive characteristic of society. Social networks can be used to achieve negative as well as positive goals and used to exclude particular individuals or groups. Sampson gave the example of racial exclusion and the way dense social networks have been used to facilitate segregation. [132] This potentially negative influence of social capital may be particularly relevant to drug users, who might be segregated or denied services by a community with high levels of social capital, as exemplified by community opposition to the medically supervised injecting centre in Kings Cross, an area known for high levels of public injecting drug use, discarded injecting equipment and overdoses. [133]

The concept of collective efficacy was proposed in an attempt to address the apparent anomaly inherent in social capital. That is, strong social ties particularly when they are restricted geographically can 'actually produce an environment that discourages collective responses to local problems' (p. 138). [134] In order to address this anomaly, collective efficacy focuses on mechanisms that facilitate social control without requiring strong ties or associations. Collective efficacy is defined as the linkage of mutual trust and shared expectations for intervening on behalf of the common good. Vinson described collective efficacy as combining the concepts of social cohesion with social control. [135] In the same way that self-efficacy is task specific, neighbourhood efficacy exists relative to collective tasks. According to Sampson and colleagues, collective efficacy is different from social capital in that social capital refers to the resources or potential inherent in social networks, while collective efficacy refers to task-specific shared expectations and mutual engagement in local social control (p. 138). [132]

In sum, the concepts of social capital, social cohesion and collective efficacy are related and the differences and relationships between the terms vary throughout the literature. These problems cannot be resolved here. However, given the interest in these concepts

for social and health outcomes, research on their impacts on behaviour and health that is relevant to drug-use behaviours and outcomes is outlined below.

Impacts of community-level psychosocial characteristics

Various reviews exist of the research on the impacts of social capital and related constructs on health and social outcomes, providing mixed results. This is not surprising given the confusion surrounding conceptualisation and measurement of these constructs described above. Some researchers have concluded that the evidence on the role of indicators of social capital (for example, trust, control and organisational membership) on health is equivocal. [128 136 137] Others, Kawachi in particular, see social capital as an important concept for public health and view the evidence for its explanatory utility as promising. Kawachi and Berkman reported that the benefits of social capital have been examined in relation to:

- families and youth behaviour
- schooling and education
- community life
- work and organisations
- democracy and governance
- economic development
- criminology
- public health. [122]

Kawachi and Berkman presented examples of the evidence for positive impacts of social capital on crime levels, political participation and public health. [122] For example, they described research that indicated that social capital at the state level was associated with self-rated health, even after adjusting for individual risk factors (low income, low education, smoking, obesity, lack of access to health care).

Of particular relevance to drug misuse is a review by Sampson, Morenoff and Gannon-Rowley of research on social processes related to problem behaviours among young people and health. [138] Consistent with the above discussion, Sampson and colleagues found very little consistency in the way social and institutional processes were operationalised or theoretically situated. Constructs overlapped and were not clearly explicated. On the basis of the studies reviewed, Sampson and colleagues identified four classes of neighbourhood mechanisms which, although related, appeared to be independent constructs. These were:

- social ties/interaction (this was also referred to as social capital): level or density of social ties between neighbours, frequency of social interactions between neighbours, patterns of neighbouring
- norms and collective efficacy: the capacity for informal social control and social cohesion, including monitoring of adolescents
- institutional resources: the quality, quantity and diversity of institutions that address the needs of young people, including childcare, health care, educational facilities, recreational infrastructure and employment opportunities
- routine activities: land use patterns and the distribution of daily routine activities (for example, the presence of schools, public parks, shops, industrial units; public transportation; large flows of night-time visitors).

They reviewed the evidence for each of these constructs and concluded that there was strong evidence for links between crime and neighbourhood social processes such as neighbourhood ties, social cohesion and informal social control. Evidence also existed for the role of collective efficacy in neighbourhood crime and community well-being; a relationship between concentrated poverty, disorder, low neighbourhood cohesion and mental distress; a possible mediating role for concentrated poverty and structural characteristics. They found mixed evidence with respect to the relationship between physical disorder and crime. [138]

There is little research on the role of community-level psychosocial factors on drug and alcohol use and outcomes. The use of tobacco and alcohol tends to be considered an individual-level confounder, controlled for in analyses of the impact of social capital on health. However, given the link between problematic drug use and crime (Chapter 1) and the work of Sampson and others demonstrating links between community-level social processes and crime, it is likely that these processes also impact upon drug misuse. A cross-sectional study of 10,617 randomly sampled residents of 19 counties in Minnesota in the United States by Patterson and colleagues provides some evidence for an association between social cohesion and smoking. [139] The relationships between area-level and individual-level social cohesion, feelings of safety (in the home and in the area), poverty and low education on smoking were investigated. The area-level measures were created by calculating the statistical means of the respondents' individual scores within each area. Social cohesion was measured using the community support subscale from a social support index, which included items on the respondent's degree of agreement with the following items:

> (1) People can depend on each other in this community; (2) Living in this community gives me a secure feeling; (3) People here know they can get help from the community if they are in trouble; (4) This is not a very good community to bring children up in; (5) There is a feeling in this community that people should not get too friendly with each other; (6) If I had an emergency, even people I do not know in this community would be willing to help. (p. 693) [139]

Analyses investigating individual-level and area-level effects and their interactions identified an association between social cohesion and smoking:

> The findings from these analyses add additional support to the literature on the associations of area characteristics with smoking by showing that area level social cohesion and safety measures have important associations with smoking. Each has a significant association with smoking above and beyond their corresponding individual level measures, with area level social cohesion showing the strongest association. These effects hold even after adjusting for area level social deprivation measures (low education levels and high poverty levels) and standard individual level demographic characteristics. Thus, area level factors are not only sources of increased risk, as previous studies have shown, but they also can have protective associations, as area level social cohesion does. Our measure of area level social cohesion is not just the absence of neighbourhood poverty and educational deprivation, as it showed a significant association with smoking after adjustment for those factors. (pp. 695–696) [139]

Kawachi and Berkman's discussion of the mechanisms by which social capital can impact health provides logical support for considering that the social characteristics of the

community will influence drug-use behaviours. [122] They described three plausible pathways by which social capital could impact health: '(1) by influencing health-related behaviours; (2) by influencing access to services and amenities; and (3) by affecting psychosocial processes' (p. 184). [122] Each of these is relevant to drug use. In relation to influencing health-related behaviours, Kawachi and Berkman hypothesised, as we have, that Sampson's research on the impact of social processes on crime is likely to apply to drug-use behaviours. In relation to services, they noted that residents of cohesive communities rally together to ensure services are funded. While this can be useful for mainstream youth services, it can also be directed against services for drug users. With respect to the third possible pathway, social capital/cohesion could increase the levels of available psychosocial support for dealing with problems as well as contributing to self-esteem as a result of mutual respect and sense of belonging. Given the relationships between mental health, stress and drug use (Chapter 1), [140] these emotional benefits could contribute to the prevention of drug misuse. However, the benefits to drug-dependent people will be dependent upon how inclusive and caring that society is in relation to drug users.

Responses/implications

If social capital is an important determinant of health behaviours, including drug use, then the challenge to 'social capitalists' is to describe how government policies can assist the community to contribute to the healthy development of its children. [141] Forrest and Kearns have attempted to do so by identifying eight domains of social capital that can be affected by policy. [142] These include: empowerment, participation, associational activity and common purpose, supporting networks and reciprocity, collective norms and values, trust, safety and belonging. Local policies included, for example, establishing local organisations to increase participation. Similarly, Kawachi and Berkman suggested that governments and the private sector could contribute to social capital by subsidising local associations that contribute to social capital such as youth organisations and childcare.

However, Lynch and colleagues have argued that we do not have good guidance on how to build social capital — or even if we should. [143] They argued that the concept is too poorly conceived or measured for us to be sure about its role, suggesting that its public health utility may have been exaggerated. They warn against overemphasising the influence of the psychosocial environment in understanding health inequalities, as this can lead to an under-emphasis on the role of economic factors and access to resources.

There is a long tradition in community development and community building that is useful in considering how to foster psychosocially healthy communities. [144-150] A number of major community development initiatives have been undertaken in Australia, including a project by Homel and colleagues in Brisbane [151] and Baum and colleagues in Adelaide. [152] Principles of community development will not be reviewed here, however, as noted by Vinson, without concerted efforts in communities with existing problems, those problems are unlikely to disappear. [135]

While interventions for disadvantaged communities are important, infrastructure also needs to be universally supportive. For example, education and training, recreation, social supports and so on need to be universally available and of high quality. We need to value strong communities as a preventive mechanism. Further, we need to consider how our systems might be affecting social dynamics. For example, concerns have been expressed that the current trend towards private schools is reducing social cohesion, segregating

children from different religious and socio-economic groups, creating elitism and entrenching class and ethnic divisions. [153] [154] Another example from the research literature indicates that physical aspects of the community, such as transport systems and public spaces, can influence social cohesion. This impact is reviewed in Chapter 5. Few would disagree about the benefits of a cohesive and supportive society. We need to monitor and amend our systems to ensure they contribute to community resilience, rather than fragment it.

Globalisation

The term globalisation has been defined by Arnett:

> Globalization has existed for many centuries as a process by which cultures influence one another and become more alike through trade, immigration and the exchange of information and ideas. However, in recent decades, the degree and intensity of the connections among different cultures and different world regions have accelerated dramatically because of advances in telecommunications and a rapid increase in economic and financial interdependence worldwide. (p. 774) [155]

The impacts of globalisation on societies around the world have been many. Some impacts have been regarded as positive, some negative. We provide a brief outline below of how globalisation might be affecting factors that can influence drug use: culture, economies and youth development; as well as how globalisation might be more directly affecting drug-use patterns and outcomes.

Culture

It has been argued that globalism is contributing to a mono-culture, with the imposition of Western (particularly American) culture over the rest of the world. For example, Inda and Rosaldo described the pervasiveness of the homogenisation of global culture:

> Globalization entails the dissemination of all facets of the West's way of being: from musical forms, architecture and modes of dress to eating habits, languages (specially English), philosophical ideas and cultural values and dispositions — those concerning, for example, freedom, democracy, gender and sexuality, human rights, religion, science and technology. (p. 14) [156]

However, as discussed by Inda and Rosalda, globalisation is not a one-way process of Western cultural imperialism. It has also increased the exposure of Western nations to world cultures and enriched Western cultures.

The impacts of fashion trends as well as Western cultural values on drug use have been discussed in this chapter. Clearly these are global rather than Australian issues. As Inda and Rosalda noted, the influence of globalisation is a two-way process and we can learn from other cultures. Rissel and colleagues suggested that some harm minimisation strategies could be learned from Vietnamese and Arabic communities. [113] Their recommendation was based on the finding that students from these communities were less likely to drink alcohol and to use cannabis, and spent less unsupervised time with friends than students from an English-speaking background. Further, among the students with a Vietnamese background, spending three or more evenings a week out with friends was associated with higher alcohol use. The challenge, as argued by Maton,

is for our society to respect and learn from different cultures, rather than assuming the dominant (Western) culture is best. [39]

Economic

Butler, Douglas and McMichael described globalisation as comprising three key elements: long-distance trade, the diffusion of ideas and technology, and capitalism. [157] They argued that: 'This triad, with increasing technological capacity, now threatens the ecological and social fabric of civilisation' (p. 34). [157] In particular, they noted that capitalism is increasingly free of social restraint and has resulted in increases in international inequalities and, in some cases, reductions in public health and education services. They cited the example of Third World countries being obliged to reduce government services to receive continued credit lines, and how this contributed to the tuberculosis and HIV epidemics in sub-Saharan Africa and also to the Rwandan genocide. Other forms of inequality were described:

> Real wages for the low-skilled have been static or declining, while at the same time, wages of executives and the highly skilled have increased. Publicly provided services have declined; for the poor and middle classes, promises of 'trickle down' and 'increased capacity' are wearing thin. (p. 37) [157]

Within Australia, Butler and colleagues noted how globalisation is contributing to problems in both rural and urban Australia. The loss of tariff protection and the withdrawal of agricultural subsidies have contributed to the decline of rural Australia:

> Small family farms either close or become burdened by further debt. Consequently, segments of the rural hinterland become marginalised, rural towns lose services, and critical mass and rural infrastructure decline.
> … male youth suicide, depression and the psychological stress of unemployment are impacting on the social fabric of rural Australia. (p. 44) [157]

In urban Australia:

> Globalisation is producing other mental health effects. The drive for competitiveness with cheap labour overseas has resulted in substantial restructuring of manufacturing industries and in the public service. Industrial awards are giving way to enterprise bargaining. For those in employment, job security is diminishing. Many in employment work long, unpaid hours, and the economic 'imperative' for two incomes in a family adds to the mental stress upon families. (p. 44) [157]

There is no reason to believe that the influence of globalisation on risk factors for drug abuse such as stress and unemployment would not result in increased drug abuse as a coping mechanism, particularly when other mental health problems are evident and support services are reduced. Butler and colleagues attributed the increase in drug use among young people to the mixture of urbanisation, homogenisation, environmental degradation and globalisation — particularly the element of marketism — they face. This combination is contributing to young Australians facing chronic uncertainty as the world changes around them, they bear the brunt of unemployment, many feel alienated and powerless.

Butler and colleagues' recommendation to address the problems with globalisation — particularly capitalism — was to harness the creativity and energy of capitalism for the public good. To do this, they suggested a cultural change, whereby social sustainability — rather than economic growth — becomes the centre of social policy:

> We observe increasing social preoccupation with individual wealth, greed and self-fulfilment and a diminishing societal capacity and willingness to provide support for those in need … there is an urgent need to devise countervailing mechanisms to enable human society to reassert human values, and to place human health and genuine well-being at the centre of the social engine. (p. 49) [157]

Youth development

The impact of modern life, which is influenced by globalisation, on youth development has been a subject of considerable research. [68 158-163] For example, Arnett posited that globalisation is affecting people's self-identity and the way that they relate to the social environment. [155] He described four aspects of identity that he considered prominent as issues related to globalisation: bi-cultural identity, self-selected cultures, emerging adulthood and identity confusion. Bi-cultural identity refers to the way that, in addition to their local identity, young people develop global identities that give them a sense of belonging to global culture. Television and the internet are important for the development of such a global identity. In this way, young people can be subject to conflicting cultural influences on behaviour. The notion of self-selected cultures is that people choose to adopt aspects of mainstream culture and subcultures that they find appealing. Arnett describes this as a mechanism by which cultural diversity will be maintained. That is, rather than everybody moving to a single culture, young people self-select into subcultures such as religious groups, the heavy-metal culture or groups that are specifically anti-globalisation.

Emerging adulthood refers to the tendency for young people in developed countries to take longer to move into adulthood than was the case in previous generations. For example, more young people participate in tertiary education and young people marry later and have children later than their grandparents. Arnett noted that this extended period of transition can be a source of identify confusion for some young people. It is this fourth concept that perhaps has most direct relevance to drug use. Arnett proposed that globalisation increases the proportion of young people who experience identity confusion and do not successfully form an identity. This can result in 'an acute sense of alienation and impermanence as they grow up with a lack of cultural certainty, a lack of clear guidelines for how life is to be lived and how to interpret their experience' (p. 778). [155] Arnett hypothesised that identity confusion among young people could be contributing to drug abuse, as well as to depression and suicide.

Drugs

Research that is specific to the impacts of globalisation on drug use and drug outcomes has described how globalisation has affected drug marketing and drug policy. For example, research has identified concern about the expansion of the global tobacco industry into underdeveloped countries, where there are less controls on tobacco sales, [164] [165] and about the influence of pharmaceutical business interests on 'Australia's abandonment since the 1980s of a protectionist version of the Keynesian welfare state, in favour of the neo-liberal model of free-trade oriented shareholder capitalism' (p. 2397). [166] Yi-Mak and Harrison discussed how globalisation has affected the use of tobacco and opium, by increasing demand, by weakening the informal controls and community

strengths of traditional societies, as well as by increasing supply. [167] Wodak described how injecting drug use has spread throughout the world, particularly to Third World countries which are already experiencing problems and so are particularly vulnerable to drug-related problems such as transmissible diseases and crime. [168] He noted:

> Illicit drug use is generally more evident in countries making the transition from communism to a market economy and also generally in urban areas where drug markets are easier to operate, provide much-needed income, employment and a temporary chemical vacation from intolerable squalor. (p. 800) [168]

Mendes described the recent debate over the proposed introduction of supervised injecting facilities in Victoria and argued that international influences affected the decision not to introduce the service. Mendes concluded: 'this debate strongly reflected the increasing globalisation of national social policy debates'. [169] We have not presented a comprehensive review here, but have outlined the multiple ways in which globalisation has had direct and indirect effects on drug use and related problems.

Conclusion

This chapter has described a multitude of ways in which culture and social structures affect drug use, either directly or indirectly. While many are familiar with the influence of social norms on drug use and how these can vary with factors such as setting, gender and ethnic group, few are aware of the cultural factors and social structures that are not specific to drug use but which influence individual risk factors (for example, education, employment) and environmental risk factors (for example, stress and the availability of social supports) for drug abuse and other problems. Research indicates that Western cultural values are increasingly influenced by individualism, neo-liberalism, materialism and secularism. While the impacts of these trends are complex and some have been positive, negative impacts have also been identified and these tend to be disproportionately experienced by people from low socio-economic groups. For example:

- Individualism has been associated with an acceptance of the concept of individual responsibility to the extent that people believe it is up to the individual to deal with poverty, to raise children and to manage their drug use. People who fail in these tasks are blamed (or blame themselves). These attitudes have contributed to an erosion of social structures to support families and people in need, including drug-dependent people.
- Neo-liberalism — with its emphasis on individualism and free market capitalism — has contributed to an over-emphasis on economic outcomes and dismantling of social structures such as trade unions, welfare and health services. The assumption that the benefits of economic growth will 'trickle down' through society have been found to be unsubstantiated. In fact, neo-liberalism has been associated with higher levels of inequality and lower social cohesion. Drug-dependent people, who are typically the most in need of societal supports, are among the most vulnerable to reductions in worker rights and social services.
- Secularisation has contributed to a loss of shared values, meaning in life and social and parental authority, all of which can contribute to drug use.
- Materialism has been the neo-liberalists' answer to the search for meaning, belonging and happiness. Yet, research has shown that, after serving basic needs, economic prosperity and material goods have not increased happiness and, to some extent, have

contributed to perpetual dissatisfaction and an inflated work ethic as people strive to pay for material goods.

Changing cultural trends or the negative impacts of cultural trends is not a simple task. However, as argued by Maton, the transformation of the social environment is an essential component of effectively addressing social problems. Maton outlined a set of strategies for cultural transformation including community capacity building, group empowerment, relational community building to improve social cohesion, and 'culture challenge' to address the denigration of others and self-absorption that contribute to social problems.

Social experiences are not the same for everyone, and are influenced by social categories such as class, gender and ethnicity. Social category can influence access to resources, exposure to marginalisation and social exclusion, roles and expectations, which in turn can affect health and social outcomes as well as drug use and drug outcomes. For example, people from low socio-economic classes have poorer health and are more likely to use tobacco, to drink alcohol in a high-risk manner and to use illicit drugs. Gender differences in drug use are complex but appear to be narrowing as gender-specific social roles have changed. The increased pressure women face juggling family and work responsibilities has yet to be adequately addressed. The impact of ethnicity on drug use is particularly complex, depending on factors such as the reason for immigration and the level of acculturation. Socio-economic factors were found to be particularly influential in contributing to drug use among some ethnic communities. While marginalisation and social exclusion can contribute to unemployment and poverty which can then contribute to drug-use problems, they can also exacerbate drug problems once they are established. Drug-dependent people tend to be caught in a cycle of disadvantage where socio-economic status can contribute to drug abuse; the stigma associated with drug dependence can then contribute to further social exclusion with reduced access to employment and health services. Social policies need to:

- address existing social-group inequalities in drug problems
- ensure that they do not exacerbate existing disadvantages experienced by social groups
- address marginalisation and social exclusion in society as a preventive measure and among drug-dependent people to facilitate achieving and maintaining reductions in drug use and other problems.

In the last decade a great deal of research has investigated community-level psychosocial processes, in particular, the concepts of social capital, social cohesion and collective efficacy. This research has been characterised by a lack of clarity and agreement regarding the conceptualisation and measurement of the constructs. The evidence supporting the impact of these constructs is mixed, although a reasonable amount of evidence links crime with neighbourhood social processes. Despite these conceptual problems, community development and community-building strategies — on a universal and targeted basis — are recommended for creating psychosocially healthy communities that support families to raise healthy children, facilitate the socialisation of young people and assist people with drug-use problems as they occur.

Further, we need to consider how systems (such as the education system, employment sector and public transport) might be affecting our social dynamics — of relevance at both the local community level and the global level. Globalisation is affecting societies

around the world in both positive and negative ways which could influence drug use. For example, Arnett suggested that globalisation results in identity confusion which could be contributing to drug abuse, depression and suicide among young people. Others have expressed concern about the way globalisation has threatened local autonomy, resulting in poorer conditions and increased uncertainty for workers. This, in turn, can impact upon risk factors for drug abuse such as stress, poverty and unemployment. While our understanding of the impact of globalisation on societies and individuals is limited, we must be aware of the changing influences and where possible shape them to minimise negative impacts.

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CHAPTER 4: SOCIO-ECONOMIC FACTORS

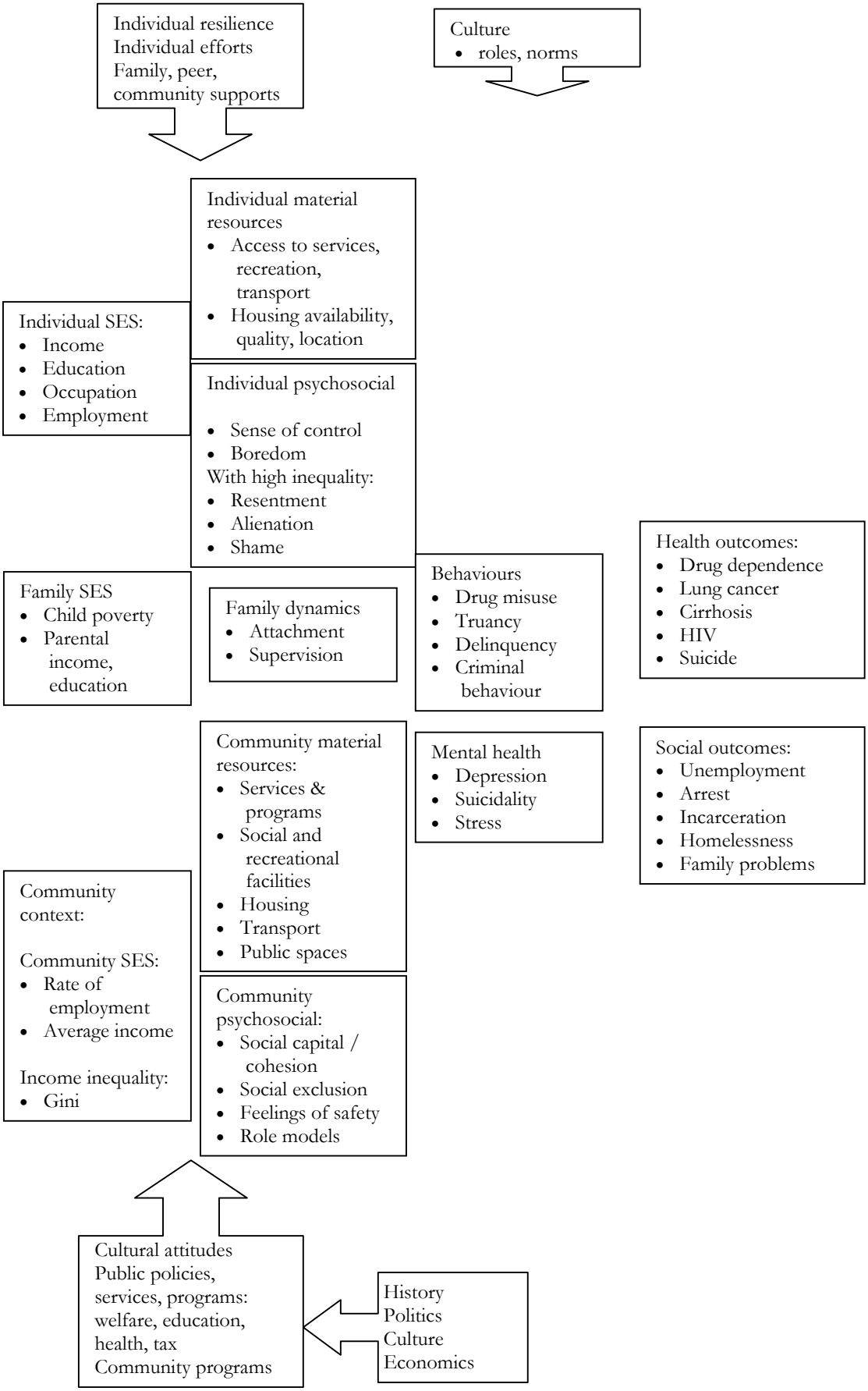
INTRODUCTION

General health and well-being, drug-use behaviours and drug-related outcomes are affected in a number of ways by individual socio-economic status and environmental socio-economic factors at both the family and community levels.

- Individual socio-economic status: as discussed in Chapter 3, class is a determinant of health and of drug-use behaviours. However, this is not a purely individual risk factor. The impacts of individual socio-economic status are related more to relative socio-economic position than to absolute poverty, and are affected by social and structural variables such as social attitudes towards disadvantaged people and the degree to which supports and services are available.
- Family socio-economic status: being raised in a family characterised by low socio-economic status has been found to contribute to negative outcomes during childhood and later in adulthood. Family disadvantage — particularly when combined with other factors such as community disadvantage and/or drug-dependent parents — can result in inter-generational disadvantage and associated negative outcomes.
- Community disadvantage: growing up or living in a socio-economically disadvantaged community can contribute to negative outcomes for child development as well as contributing to drug use in adolescence and adult life.
- Income inequality: there is ongoing debate about the impact of income inequality at the national, state or local level on health and social outcomes. The evidence is somewhat mixed, and limited in relation to drug-use behaviours and outcomes.

Socio-economic factors can interact or accumulate. The effects of each can be difficult to isolate, particularly as the mechanisms by which socio-economic factors influence drug-use behaviours and outcomes can be common to multiple socio-economic factors. The four socio-economic factors discussed in this chapter, the mechanisms through which they may affect drug use and health outcomes, the impacts and outcomes are presented in Figure 1. Causal arrows are not included in this figure as the relationships are complex and context-dependent. Examples of contextual factors are illustrated in the arrow-shaped boxes. The figure is provided simply to acquaint the reader with the multiple concepts, indicators and outcomes discussed in this chapter. Prior to discussing the elements of Figure 1, we will briefly outline definitions of socio-economic status, poverty, income inequality and inequity, and socio-economic trends.

Figure 1: Socio-economic contributors to drug use



Definitions and indicators

Socio-economic status (or 'socio-economic position' [1 2]) describes a person's position in society using criteria such as income, level of education, occupation, value of property owned and so on. [3 4] Measures of socio-economic status at the community level also exist. [5] The Australian Bureau of Statistics use data from the Census of Population and Housing to construct a number of indices to summarise the social and economic conditions of Australian geographic areas. [6] For example, the index of disadvantage focuses on low-income earners, relatively lower educational attainment and high unemployment.

Poverty is defined in both absolute and relative terms. Absolute poverty refers to a state of lacking the most basic requirements of life. Relative poverty refers to 'lacking the resources required to participate in the lifestyle and consumption patterns enjoyed by others in society' (p. 6). [7] As such, poverty is a multidimensional concept that can include material deprivation, exclusion from social networks and isolation from community life. [7] Some argue that definitions of poverty should also encompass the notion that poverty is forced onto people, not chosen. [7] Poverty is measured in a number of ways and each method results in markedly different results. As summarised by the Senate Community Affairs References Committee, these include: [7]

- income-based poverty lines to measure income poverty, for example, the Henderson poverty line
- budget standards to measure the income level needed to afford a clearly defined 'basket of goods' that is required to maintain a minimum acceptable lifestyle
- consensual approaches using what members of the community think is a minimum necessary income and drawing a poverty line at this point
- living standards which attempt to directly measure the living standards of low-income people and compare them to those in the wider community.

Inequality refers to a condition in which separate groups differ in terms of a defined variable. The defined variable can relate to socio-economic status (hence terms such as socio-economic inequality, economic inequality and income inequality). Alternately, the defined variable can relate to outcomes, such as health status (hence the term 'health inequalities'). To avoid confusion, the type of inequality being discussed needs to be identified. Income inequality is often measured at the national level, but is also measured at state and local levels. There are several indices of inequality available including the Gini coefficient, decile ratio, Robin Hood index, Atkinson index and Theil's entropy measure. [8] The Gini coefficient is the most common measure of income inequality. It can be conceptualised as a measure of the average difference between all pairs of incomes in a population. As explained by Lynch and colleagues, the Gini coefficient has a minimum value of zero when everyone has the same income (complete equality) and it has a maximum value of one when a single individual or household receives all of the income in the population (complete inequality). [9] For a discussion on the measurement of health inequalities, see reviews by Regidor. [10 11]

Inequity is distinct from inequality, and refers to a situation where inequality is deemed unfair or unjust. The concept of inequity is thus value-laden, as what is considered 'fair' or 'just' is essentially influenced by norms and values.

Socio-economic trends

To put the discussion of socio-economic factors in context, some socio-economic trends are presented below.

Child poverty

The percentage of dependent children in poverty in Australia depends upon the measure used. The Senate Community Affairs References Committee reported research that used three different income poverty lines, and estimated that the number of children in poverty in 2000 ranged from 10 per cent to 21 per cent (Table 1). When the costs of housing were taken into account, these poverty rates increased. [7]

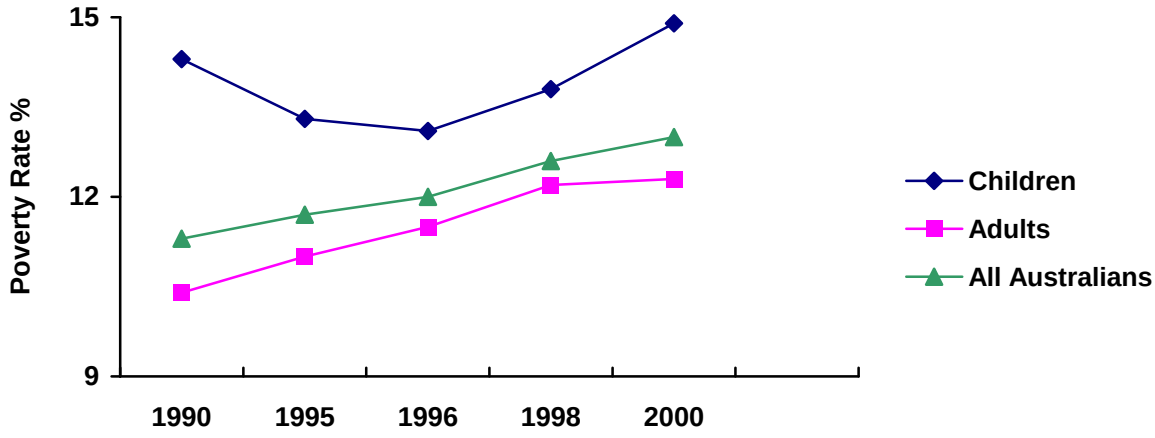
Table 1 Extent of child poverty in Australia in 2000, NATSEM/Smith family estimates

Poverty line	Henderson Poverty Line (traditional approach)	50% average income	50% median income
Extent of poverty (not accounting for housing costs)			
Children in poverty	1,037,000	743,000	479,000
Percentage of children	20.8	14.9	9.6
Extent of poverty (accounting for housing costs)			
Children in poverty	1,316,000	1,142,000	848,000
Percentage of children	26.4	22.9	17.0

Source: Submission 163 to Senate Community Affairs References Committee, p. 66 (ACOSS) [7]

Reductions in child poverty were reported for the 1980s and early 1990s, but this trend has reversed and child poverty rates increased in the late 1990s [7] (Figure 2).

Figure 2: Estimated poverty rates, 1990–2000, using before housing half average income poverty line (Henderson equivalence scale)



Source: Smith Family–NATSEM report, 2001, p. 4 [12]

Poverty

Estimates of poverty vary widely, depending upon the measure used. Estimates to the Senate Community Affairs References Committee ranged from 5 per cent (in chronic poverty) to 23 per cent (using the Henderson poverty line) of the population. From their study of trends in poverty in Australia from 1990 to 2000, the Smith Family and the National Centre for Social and Economic Modelling (NATSEM) reported that poverty increased from 11 per cent to 13 per cent of the population over this period (Figure 2), when the poverty line was set at half the average family income of all Australians. [12] The authors noted the persistence of poverty despite a decade of economic growth.

The groups in Australia identified as being at highest risk of poverty by the Senate Community Affairs References Committee are listed below: [7]

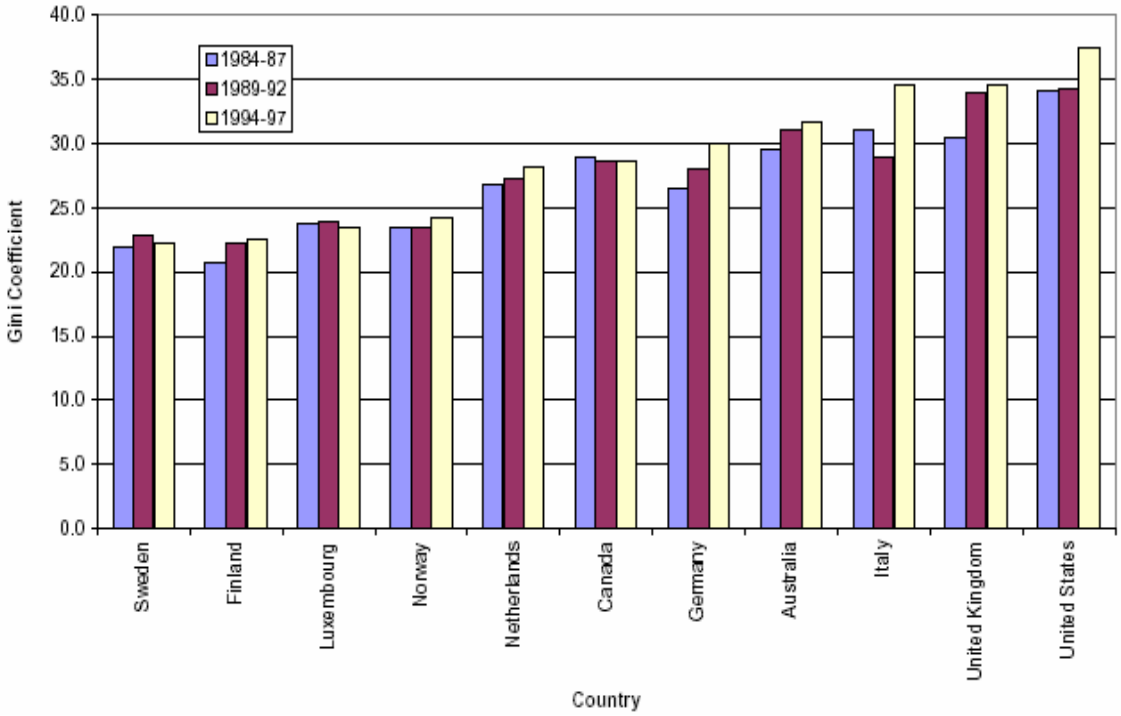
- Indigenous Australians
- people who are unemployed
- people dependent on government cash benefits
- sole-parent families and their children
- families that have three or more children
- people earning low wages
- people with disabilities or those experiencing a long term illness
- aged people, especially those renting privately
- young people, especially in low income households
- single people on low incomes
- people who are homeless
- migrants and refugees.

Income inequality

Income inequality has increased in Australia in the past two decades. [7] For example, a report by the AMP and NATSEM identified that, while Australians taxable income increased by 20 per cent between 1994–95 and 1998–99, this increase was unevenly distributed by postcode. The poorest postcodes achieved an average increase of only 16 per cent, whereas the wealthiest postcodes achieved an average increase of 25 per cent. In Darling Point (a wealthy suburb of Sydney), the increase was 35 per cent — double that of the poorest postcodes.

Income inequality has increased internationally, both within and between countries. [13 14] As can be seen in **Figure 3**, income inequality is higher in the United States of America than in Nordic countries such as Sweden and Finland. Inequality in Canada, Australia and the United Kingdom falls between these two extremes. In nearly all countries, inequality has increased since the 1980s.

Figure 3: Income inequality — international comparisons across time



Source: Data from Luxemburg Income Study, 2000, p. 39 [14]

INDIVIDUAL SOCIO-ECONOMIC STATUS

It is now widely accepted that, at this time of history, higher socio-economic status is generally associated with better health. [15 16] On the basis of reviews of the literature and original research, Lynch and colleagues have drawn the following conclusions: [1 9 17]

- Research has demonstrated a relationship between socio-economic status and many (but not all) disease and mortality outcomes. The relationship between individual-level health outcomes and socio-economic status can vary: 'This relationship is found for many but not all disease and morbidity outcomes and across many but not all places

and over many but not all time periods' (p. 9). [9] The heterogeneity in relationships might provide insight into the mechanisms by which socio-economic status and health are related.

- The relationship between individual-level income and health is an incremental one. That is, with each increment in socio-economic status, there is generally an increment in health status. This is referred to as the 'social gradient'. [16] However, this relationship is not linear: the health benefits of increased socio-economic status become smaller as socio-economic status increases.
- While the relationship is two-way, in that socio-economic status can contribute to health outcomes and health outcomes can contribute to socio-economic status (for example, poor health can impede the ability to work), longitudinal research has demonstrated that the bulk of the association between socio-economic status and health is in the direction of socio-economic status affecting health.
- Income at the national level (gross domestic product) has also been found to influence health. For example, data from the World Bank have demonstrated that a nation's average life expectancy is related to gross domestic product. This relationship is also curvilinear, such that the improvement in health outcomes for every unit of increase in gross domestic product decreases at higher levels of gross domestic product.
- Poverty shows a dose–response relationship with health as long-term poverty has a greater impact on the health of children and adults than do short periods of poverty.

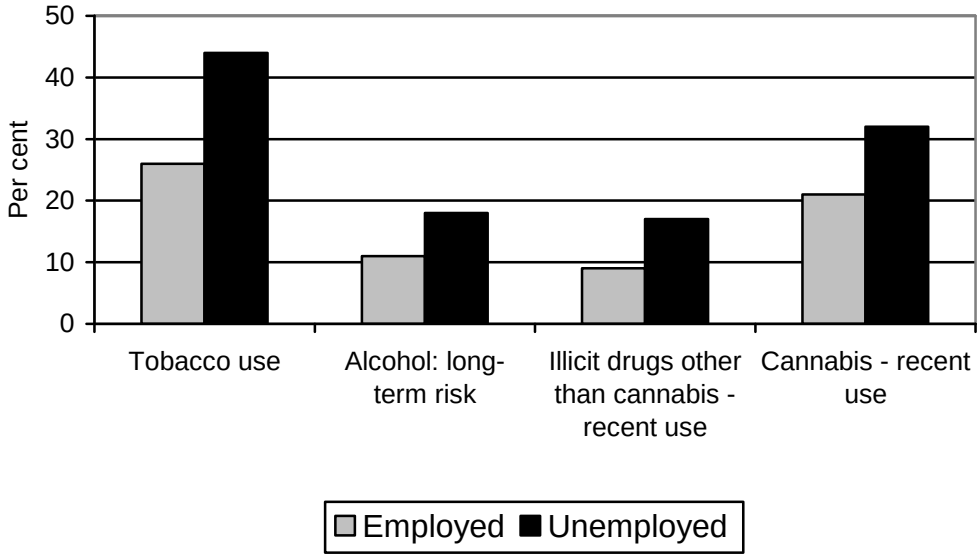
Conceptual models often include health behaviours such as drug use as one of the mediating factors in the relationship between socio-economic status and health outcomes. [18] That is, socio-economic status is thought to influence health risk factors such as stress, access to resources (healthy food, health services, recreation), and health risk behaviours such as exercise, diet and drug use, which in turn affect health. [19] Socio-economic status differentials in drug use and drug problems add credibility to these conceptualisations. For example, as illustrated in Figure 4, tobacco use, alcohol use that places the drinker at risk of harm in the long term, recent cannabis use and recent use of other illicit drugs are all more common among unemployed people than among employed people.

Smoking is more prevalent and more frequent, and quitting less successful among people from lower socio-economic backgrounds. The prevalence of smoking by respondents from five socio-economic groups reported in the 2001 National Drug Household Survey is presented in Figure 5. It demonstrates a reduction in the rate of smoking from the lowest (26 per cent) to the highest (18 per cent) socio-economic groups. In addition to being more likely to smoke cigarettes, low socio-economic status smokers tend to smoke more cigarettes per week than higher socio-economic status smokers. This is reflected in comparisons of smokers with no post-school qualifications (114 cigarettes) compared with smokers who do have post-school qualifications (103 cigarettes) or smokers who are unemployed (120 cigarettes) compared with smokers who are employed (106 cigarettes). [20] Furthermore, the differential socio-economic impacts on smoking commence early in life, as pregnant women are more likely to smoke when they are from low socio-economic status backgrounds than from high socio-economic status backgrounds. [21] While smokers from low socio-economic status backgrounds are just as likely to try to quit smoking, they are less likely to succeed than smokers from higher socio-economic status backgrounds. [22-24]

Socio-economic status has also been associated with drug-related harms such as foetal alcohol syndrome, [25] alcohol and drug disorders, [26] hospital discharges due to diagnoses

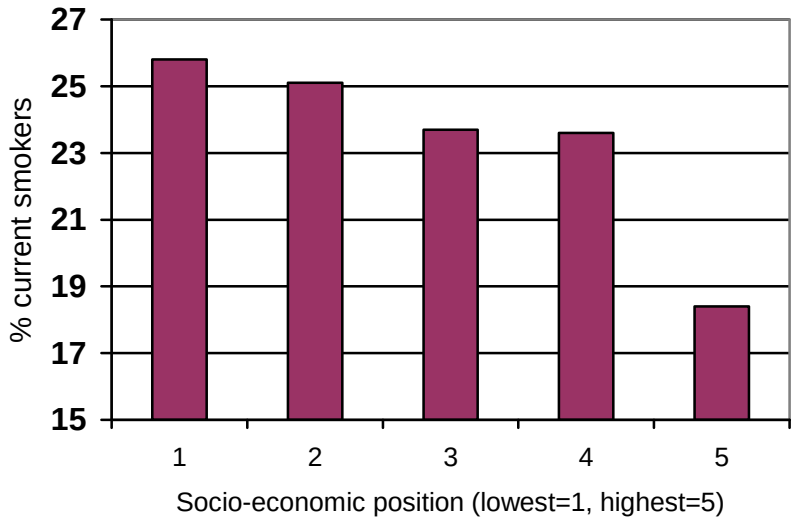
related to alcoholism (alcohol psychosis, alcoholism and alcohol intoxication), [27] alcohol-related deaths, [28] lung cancer, [29 30] drug overdoses [31] and alcohol-related assault. [32]

Figure 4: Drug use in Australia by employment



Source: 2001 National Drug Strategy Household Survey [20]

Figure 5: Socio-economic position and smoking rates in Australia



Source: 2001 National Drug Strategy Household Survey [20]

As discussed by Room, the relationships between socio-economic status and drug use and drug outcomes are neither simple, unidirectional, nor consistent. [33] He described possible complications in any analysis:

1. Patterns of use or problems by socio-economic status can vary with the measure of drug use (for example, frequency or quantity) or problem. Indeed the socio-economic status relation can be reversed.

2. Patterns of use or problems by socio-economic status can vary with the measure of socio-economic status used. Room concluded that, all else being equal, income tends to have the strongest positive relation of any inequality indicator to consumption variables, particularly to volume of consumption.
3. The relation between socio-economic status and substance use pattern can vary within the same country across, for example, age, gender and ethnic groups.
4. The relationship can be mediated by factors such as the social and policy environment.
5. For serious substance-related consequences such as mortality, the effects of different components of socio-economic status may be additive.

The complexity of the relationship between drug use and socio-economic status is illustrated by Casswell, Pledger and Hooper's longitudinal study of alcohol use by young adults in New Zealand. [34] The study sample was 969 members of the Dunedin Multidisciplinary Health and Development study aged 18, 21 and 26 years. This study used three indicators of socio-economic status: educational achievement (no school qualifications, high-school qualifications, tertiary qualifications), occupational activity (unemployed, student, low-status employment, high-status employment and 'other') and income; and two measures of alcohol consumption: the frequency of drinking and the typical quantity of alcohol consumed per drinking occasion in the past year. The 'other' occupational category included unpaid work such as working in family businesses and homemakers and was used only for analyses with women as so few men fitted this category. Separate analyses were conducted for males and females because of their different income and drinking patterns. The repeated-measures analyses identified a range of different relationships between socio-economic status and alcohol use, depending upon gender, age and the measures used. The results are summarised below.

Frequency of drinking:

- Frequency of drinking was most clearly related to income for both males and females across all three ages, with more frequent drinking associated with higher income.
- Educational achievement was related to drinking frequency only for men at age 18, such that males with less educational achievement consumed alcohol more frequently than males with higher educational achievement at age 18. This difference did not remain at ages 21 and 26. Educational achievement did not affect drinking frequency among the women studied.
- Occupational activity did not significantly affect drinking frequency among men, but did have an impact among women. Among women two patterns of frequency of use over time emerged. Among the employed, drinking frequency rose steadily, while among the unemployed and 'other' groups drinking frequency decreased at age 21, then increased at age 26. At all ages, the unemployed group drank more frequently than the 'other' group, while the group with low-status employment drank more frequently than the group with high-status employment.

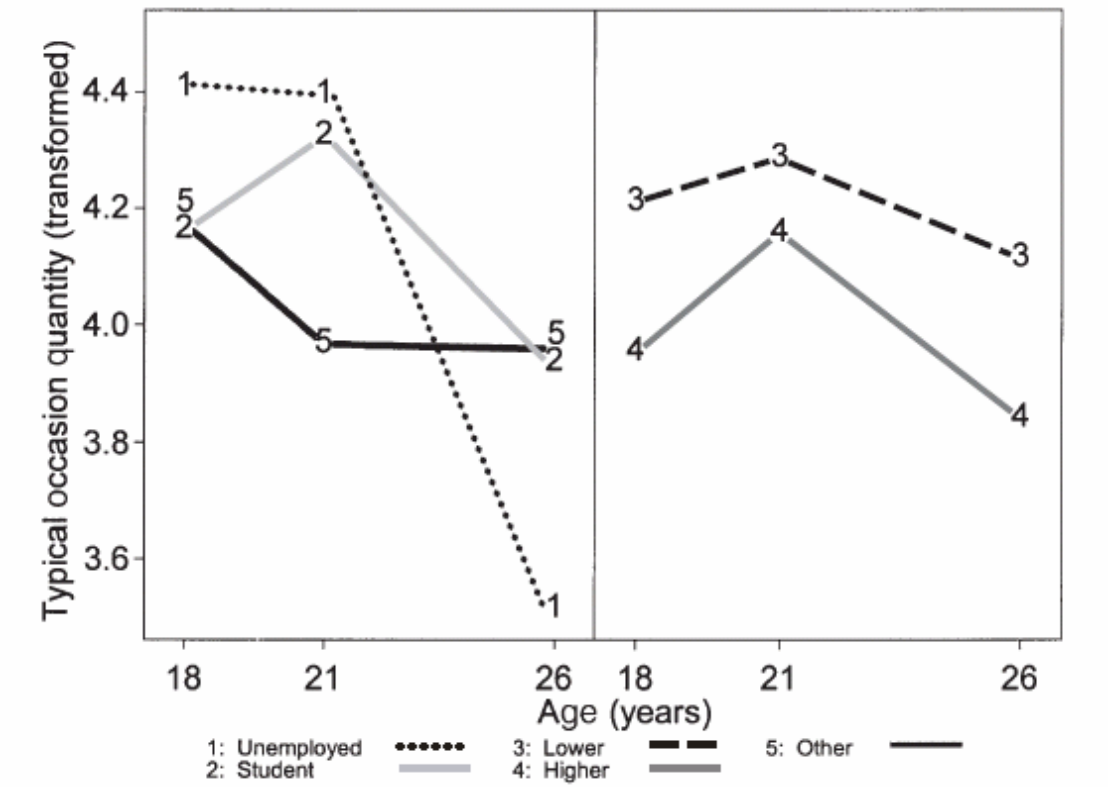
Quantity consumed per typical occasion of drinking:

- Quantity of use was not affected by income.
- Of all of the socio-economic status indicators, educational achievement had the clearest relationship with quantity of alcohol consumed. The better-educated men and women drank smaller amounts when they drank alcohol than the less-well educated. This difference was found at all three ages.

- Relationships between the quantity of alcohol consumed and occupation were inconsistent. Occupational activity had no effect on the quantity of alcohol consumed by men. Among women, changes in the quantity of alcohol consumed over time differed between the occupational groups (Figure 6). For example, unemployed women drank the most alcohol at age 18 and the least at age 26. Women with lower-status jobs consistently drank more when they drank than women with higher-status jobs.

Casswell and colleagues' study demonstrates how the relationship between socio-economic status and drug use (in this case, alcohol use) can vary with gender, age, the indicator of socio-economic status and the measure of use. Simple measures of frequency and quantity do not identify whether or not that use is risky or harmful. The more frequent pattern of drinking by study participants with higher incomes relative to study participants with lower incomes does not mean that higher-income participants were engaged in more harmful drinking unless their drinking exceeded the frequencies and quantities recommended by the National Health and Medical Research Council. [35] In fact, the quantity consumed per occasion was not affected by income. It would be more useful to identify how rates of risky or harmful drinking patterns varied with indicators of socio-economic status, rather than simple measures of frequency or quantity. The different relationships between various indicators of socio-economic status and alcohol use highlight how imperfect any individual indicator is of socio-economic status and how each indicator is differentially affected by other contextual variables. For example, Casswell and colleagues speculated that beliefs and norms regarding drinking might have a stronger association with education than with employment status or occupation.

Figure 6: Women's typical quantity of alcohol consumption by age and by occupation



Source: Dunedin Multidisciplinary Health and Development study, 2003, p. 98 [34]

Galea, Nandi and Vlahov conducted a review of the key epidemiological research published since 1970 examining social factors that might shape drug use. [36] Social factors included socio-economic factors at the individual, family and neighbourhood levels. The review delineated (a) different stages of drug use: initiation of use, use and misuse, and the cessation of use; and (b) different categories of drugs: tobacco, alcohol and illicit drugs. The authors' conclusions are summarised in Table 2.

These conclusions need to be read with caution as research was insufficient for firm conclusions in a number of areas. The authors noted the complexity of the relationships between socio-economic factors and drug use which can be influenced by socio-demographic (for example, gender) and contextual factors (for example, social norms). Therefore, the review does not provide a definitive description of the impacts of socio-economic status on drug use. Rather, it shows that relationships vary depending upon the level of socio-economic status being investigated, drug type, the stage of drug use being investigated, and other contextual factors. Some of the conclusions from the review may need to be modified as further research is conducted. For example, Galea and colleagues concluded that 'there is little evidence of a role for adverse childhood family conditions in adult cigarette or alcohol use and misuse' (p. 45). This is inconsistent with the conclusions of Davey Smith and Lynch [37] and other research [38] (presented below). Such conflicting conclusions might be the result of research being conducted in different contexts or with different populations.

Table 2: Social factors associated with drug use

	Socio-economic factors	Other social factors
Drug use initiation		
Cigarettes & alcohol	Parental educational attainment	Family environment (for example, poor relationships with parents, parental drug use)
		Social network use of substances
Illicit drugs	Neighbourhood SES Homelessness as an adolescent	Family environment (for example, drug use by family members)
	No clear relation with familial SES	Social networks: drug-using friends
Drug use and misuse		
Cigarettes & alcohol	Low individual SES might be associated with abuse or dependence	Family and social network norms about use
		Low social support might be associated with abuse or dependence
	Little evidence that adverse childhood family conditions contribute to adult cigarette or alcohol use and misuse	
	Area-level characteristics, particularly socio-economic deprivation, are associated with cigarette and alcohol use	
	Neighbourhood disadvantage	
Illicit drugs	Low individual-level SES	Family and social network norms
	Neighbourhood disadvantage	
Cessation, abstinence and relapse		
Cigarettes & alcohol	High individual-level SES is associated with cessation	Family and social network norms
		Social support contributes to abstinence
Illicit drugs	Socio-economic factors not consistently related to cessation, although homelessness is associated with reduced likelihood of seeking treatment	Family and social network norms are the factors primarily associated with cessation and sustained abstinence

Source: Galea, Nandi and Vlahov, 2004 [36]
Note: SES = socio-economic status

FAMILY SOCIO-ECONOMIC STATUS

There is a strong body of research demonstrating that child development and health behaviours are affected by socio-economic status in childhood, and that these have impacts on socio-economic status and health in adulthood.[39] Access to material and social resources or reactions to stress-inducing conditions by both the children and their parents are posited as mediating variables. [39-42] Davey Smith and Lynch described how socio-economic conditions affect health across the life course, and how social circumstances can increase exposure to a variety of risks over the life course, thereby accumulating risk. [37] They noted that the relationship with socio-economic status varies with the health outcome and with how the relationships between risk factors for health are linked to socio-economic status over the life course, which can depend upon place, time and group:

- place — for example, countries have different social conditions in terms of political systems, economic systems, culture, and so on
- historical time period — for example, in the 1700s location close to sources of infection was a more important indicator of life expectancy than income
- population subgroup — for example, gender.

With regard to specific outcomes, Davey Smith and Lynch identified that there is a substantial body of literature to demonstrate that childhood socio-economic status (parental occupation and/or education) affects (among other outcomes):

- child abuse and neglect (Bremne and Vermetten, 2001)
- psychosocial characteristics such as hostility, hopelessness and depression (Harper et al, 2002; Gilman et al, 2002)
- psychiatric outcomes (Power and Manor, 1992; Fan and Eaton, 2001; Eaton et al, 2001; Ritsher et al, 2001)
- health behaviours such as smoking and alcohol consumption. [43 44]

That is, socio-economic status contributes to exposure to risk factors (for example, child abuse) for drug abuse and related problems (for example, depression) across the life course. Davey Smith and Lynch suggested that some caution is warranted in asserting this relationship as childhood experience can be mediated by adult experience:

> Behavioural risk factors — such as smoking and exercise — were more dependent on adult than parental social class. This supports the notion that in some circumstances, behaviours like smoking were powerfully affected by the social environment experienced during adult life, and that modifying such behaviours is dependent upon the presence of the social circumstances required for maintaining favourable health-related behaviours. (p. 8) [37]

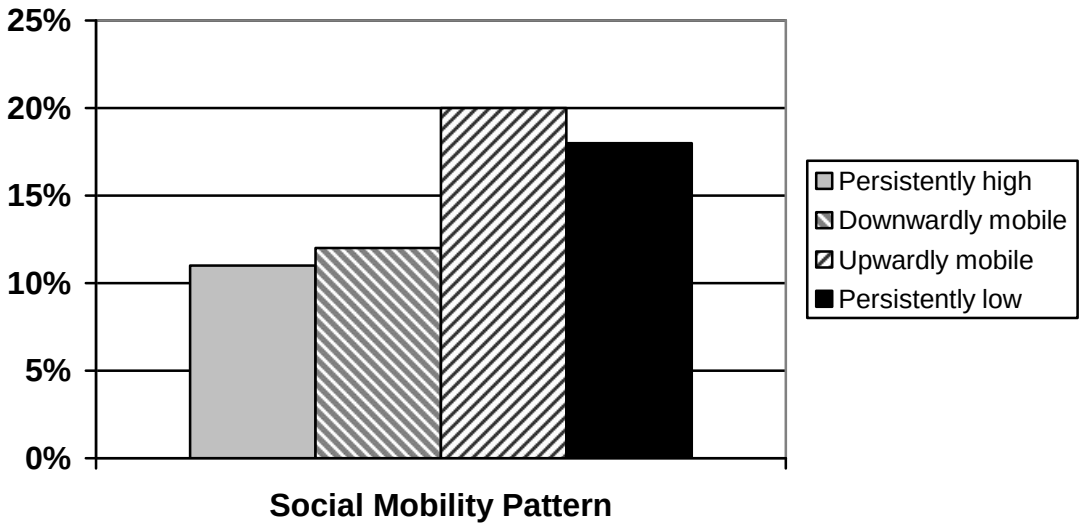
A study by Poulton and colleagues contradicts — or at least adds complexity to — the conclusions of Galea and colleagues [36] (above) and of Davey Smith and Lynch. [37] Poulton's study demonstrated that, among their New Zealand cohort of 1,000 children, childhood socio-economic status contributed to tobacco and alcohol dependence in adulthood (at least until age 26) and that (at least in the case of alcohol dependence) the effect of childhood socio-economic status persisted despite upward mobility during adulthood. [38] The cohort was assessed at 0, 3, 5, 7, 9, 11, 13, 15 and 26 years. Childhood

and adulthood socio-economic status were measured so that four groups could be identified:

		Childhood SES	
		High	Low
Adult SES	High	Persistently high	Upwardly mobile
	Low	Downwardly mobile	Persistently low

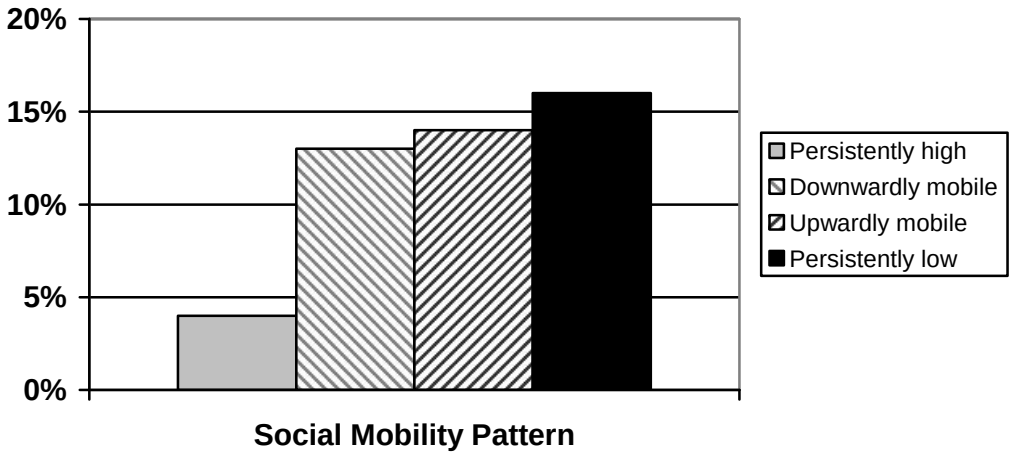
As illustrated below, childhood socio-economic status influenced alcohol dependence into adulthood, such that low socio-economic status in childhood contributed to alcohol dependence at age 26 irrespective of adult socio-economic status (Figure 7). In contrast, low socio-economic status in childhood *or* during adulthood was associated with tobacco dependence at age 26. (Figure 8) Only those who were born wealthy and stayed wealthy were protected from tobacco dependence.

Figure 7: Life socio-economic status and alcohol dependence at age 26



Source: Poulton et al, 2002, p. 1644 [38]

Figure 8: Life socio-economic status and tobacco dependence at age 26



Source: Poulton et al, 2002, p. 1644 [38]

COMMUNITY DISADVANTAGE

Community disadvantage has been associated with numerous health, social and other problems. [45 46] Vinson mapped local area disadvantage (unemployment, income) and a range of problems (for example, low birth weight, child abuse, early school leaving, criminal offences, imprisonment, mortality) in Victoria and New South Wales in 1999 and 2003. [47] Unfortunately, neither drug use nor drug problems were included in the study. However, the study did describe how socio-economic status, health and social problems cluster. Vinson found that low income, disability/sickness, early school leaving, court convictions, long-term unemployment, low skills, unemployment and non-completion of Year 12 were highly intercorrelated and clustered geographically: about 5 per cent of the postcode areas accounted for about 25 per cent of *each* measure of disadvantage.

There is evidence of increased drug use in disadvantaged communities. [48 49] For example, Galea and colleagues' review of the social contributors to drug use and misuse (above) identified that neighbourhood socio-economic status contributed to the initiation of illicit drug use and use patterns of alcohol, tobacco and illicit drugs. [36] The United Kingdom Advisory Council on the Misuse of Drugs noted how post-war research in the United States of America and the United Kingdom identified that areas marked by a concentration of economic disadvantage tend to include a multitude of risk factors for drug abuse and social problems. [50] Consequently, they noted, the problems associated with drug misuse and drug markets become problems for the whole neighbourhood. Furthermore, children growing up in such neighbourhoods face disadvantage and incentives to be involved in the drug market:

> In poor neighbourhoods where young people suffer exclusion from formal opportunities in terms of education and the job market, drugs and crime can offer an alternative means by which to demonstrate status and achievement. Where low level drug dealing is concerned, this can involve significant monetary gains …
> Quite apart from monetary gains, success within such local networks is a means

> to claim respect, demonstrate authority and credibility, and sustain a meaningful lifestyle and identify. (p. 40) [50]

Research on the reasons for increased drug use in disadvantaged communities suggests contributing factors include increased drug availability, [51] reduced collective efficacy and lower expectations for shared child control to prevent and control drug use (see Chapter 3) [52] and higher levels of stress and strain. [53]

Boardman and colleagues analysed cross-sectional data from the 1995 Detroit Area Study (N =1,101) and data from the 1990 census to investigate the question of whether neighbourhood disadvantage affected drug use, and if so, whether this relationship remained after controlling for individual socio-economic status. [53] Drug use was operationalised as use of any of the following drugs in the previous 12 months (without a medical prescription): 'sedatives, tranquillisers, amphetamines, analgesics/painkillers, inhalants, marijuana, cocaine, crack or free base, LSD or other hallucinogens, and heroin' (p. 155). The authors reviewed previous research suggesting that social stressors and psychological distress are related to the use and abuse of drugs, and highlighted the importance of personal resources to buffer stress. They identified five possible ways that neighbourhood disadvantage might contribute to drug use:

1. Neighbourhood disadvantage could increase the number of stressors (life events) and social strains (negative social interactions with others).
2. Neighbourhood disadvantage could undermine the psychological resources of individuals to deal with stresses and strains, for example, by reducing perceptions of self-efficacy.
3. Neighbourhood disadvantage could decrease the social resources available to individuals. For example, friends might also be under inflated stress and not coping well with their own problems, so less able to provide support and/or more likely to want support for themselves.
4. The ambience of disadvantaged communities — characterised by crime, violence, graffiti — could increase levels of psychological distress.
5. Other physical, cultural or social characteristics unique to different neighbourhoods might mediate neighbourhood disadvantage and drug use. For example, drug-use norms, social and material resources to sanction drug use, and drug availability might vary with material disadvantage and influence drug use.

On the basis of this review, Boardman and colleagues investigated a second question: 'Is neighborhood disadvantage associated with drug use through a higher number of social stressors, increased stress levels, decreased psychological resources, or decreased social resources among persons residing in disadvantaged areas?' (p. 151). The results of their analyses identified a positive relationship between neighbourhood disadvantage and drug use, which remained statistically significant after adjustment for individual-level socio-economic status. The neighbourhood effect was described as 'not large in magnitude' (p. 160) but 'at least as (or more) important in explaining drug-related behaviors as is individual-level education and income, as well as social and psychological resources' (p.160). Boardman and colleagues added that:

> Moreover, although the estimated net effects of residential context are relatively small in magnitude, such effects may be especially important because even modest shifts in neighborhood socioeconomic status have the potential to impact thousands of individuals. (p. 161)

Further analyses identified that the relationship between neighbourhood disadvantage and drug use was mediated by increased social stressors and higher levels of psychological distress among residents of disadvantaged neighbourhoods:

> neighborhood disadvantage is positively related to higher levels of stress, lower social resources, and higher levels of psychological distress. We find no evidence that either psychological resource (self-esteem and personal mastery) varies significantly by neighborhood disadvantage. (p. 158)

Further, the relationship between neighbourhood disadvantage and drug use was strongest for individuals with lower incomes and was barely evident for individuals with incomes greater than $40,000 per annum.

There has been little epidemiological research in Australia on the relationship between local area disadvantage, drug use and related problems. Degenhardt, Hall and Adelstein analysed New South Wales Ambulance Service data by Australian Bureau of Statistics' Statistical Local Area. [54] They correlated ambulance attendance rates at suspected overdoses and the Australian Bureau of Statistics area-level estimates of relative social disadvantage and found a significant positive correlation (r=–0.21). This result suggested that higher overdose-attendance rates occurred in more disadvantaged areas. Further, areas with the highest rates of ambulance attendances were also the areas with the highest rates of fatal heroin overdoses. The correlation between ambulance attendances for suspected overdoses and fatal heroin overdoses was r=+0.91.

In summary, there is reasonable evidence to suggest that growing up or living in a disadvantaged community can contribute to drug use. Factors such as increased drug availability, reduced collective efficacy, increased stress and strain in disadvantaged communities appear to contribute to this relationship.

INCOME INEQUALITY

The impact of income inequality on health and well-being has been a subject of considerable debate and research in the past decade. In the 1990s the evidence seemed quite convincing that income inequality at a national, state or area level was a significant cause of harm to psychosocial and physical health. However, since then a great deal more sophisticated research has been conducted and it has become apparent that the effects of income inequality are not as robust as first thought. [55] This section will demonstrate that income inequality appears to affect some health and social outcomes in some contexts, and might contribute to drug use in Australia. However, the evidence on the impact of income inequality on drug use is insufficient for firm conclusions at this time.

Inequalities and health

John Lynch and his colleagues conducted a systematic and comprehensive review of the research on income inequality and health. Their paper [9] is summarised below in some detail (with permission from Lynch) because the topic of income inequality is complex and confusion has arisen because of conflicting research results as well as the plethora of hypotheses to explain results. References to the authors (for example, 'Lynch and colleagues noted …') are kept to a minimum to reduce repetition. However, to be clear: this section is based upon the paper by Lynch, Davey Smith and colleagues and we

recommend the interested reader study that paper for further information and references.[9]

Introduction

It is widely acknowledged that income inequality has increased since the 1970s in wealthy countries such as the United States of America and the United Kingdom. But these increases and the rates of inequality are modest in comparison with other periods of history such as the periods of the Depression and the period between the First and Second World Wars. Changes in income inequality have coincided with changes in rates of absolute poverty and changes in welfare policies, making it difficult to isolate the influences of inequality, poverty and social policies.

It is widely accepted that individual-level socio-economic status is associated with health. Among richer countries, the strength of the relationship between gross domestic product and health varies with time period and between countries. Thus, a factor other than gross domestic product is also influencing national health outcomes. In 1975, Preston proposed that the improvement in health with higher gross domestic product was due to the increased capacity of the country to purchase public health infrastructure, rather than the increased income of individuals. Further, because the relationship between individual income and individual health is asymptotic, those who earned less than the average lost more years of life than those at the top for a given reduction in income. Therefore, the *distribution* of income is likely to affect the relationship between gross domestic product and national health outcomes.

Since 1975 substantial research has described and explained relationships between income inequality and health. The income inequality hypothesis was originally intended to explain health differences between wealthy countries. This hypothesis is now being used to explain health differences within wealthy countries. The stronger association between absolute gross domestic product and health in poorer countries might mean that there is an income threshold, below which absolute income is more important than relative income.

Multiple hypotheses for the relationship between income inequality and health have been proposed. Lynch and colleagues' summary table of hypotheses is reproduced in Table 3.

Table 3: Hypotheses on relationships between income inequality and health

Hypothesis	Interpretation
Wagstaff and van Doorslaer (2000) [56]	
Absolute income hypothesis (AIH)	There is no association between income and health after proper control for absolute income at the individual level.
Relative income hypothesis (RIH)	It is income relative to some social group average (which social group is undefined) that is important to health.
Deprivation hypothesis (DH)	It is income relative to some poverty standard that is important to health.
Relative position hypothesis (RPH)	It is an individual's relative position in the income distribution that is important to health.
Income inequality hypothesis (IIH)	There is a direct effect of income inequality on health after control for absolute income.
Mellor and Milyo (2002) [57]	
IIH (strong version)	For two individuals, A (with high income) and B (with low income), a transfer of income from A to B will improve health of both.
IIH (weak version)	An income transfer will improve the health of B much more than it will reduce the health for A, suggesting more potent health effects of income inequality among the poor.
Lynch et al (2000) [58]	
Individual income interpretation	As for AIH above
Psychosocial interpretation (strong version)	Direct health effects of income inequality represent generalisable psychosocial processes that are among the major determinants of population health in rich countries.
Psychosocial interpretation (weak version)	Direct health effects of income inequality represent particular psychosocial processes that influence some health outcomes in rich countries.
Neo-material interpretation	Direct health effects of income inequality result from the differential accumulation of exposures that have their sources in the material world and that do not result directly from perceptions of disadvantage.

Source: Lynch J, Davey Smith G, Harper S, et al. 2004, p. 15 [9]

Wagstaff and van Doorslaer's [56] review of the literature identified 'strong evidence for the AIH, no evidence for the RPH because it has not been tested, no evidence in support of the RIH, and some evidence consistent with the IIH' (p. 16). [9] Lynch et al's psychosocial and neo-material hypotheses are potential mechanisms for the direct health effects of income inequality under the IIH. These are discussed in turn below.

On the **psychosocial** interpretation:

> The income inequality hypothesis states that there is a direct health effect of aggregate-level income inequality, which could be due to psychosocial processes based on perceptions of place in the social hierarchy. [59] It has been argued that such perceptions produce negative emotions like shame and distrust, which are directly and physiologically translated into poorer health via psychoneuroendrocrine mechanisms and/or indirectly through stress-induced behaviors like smoking. Simultaneously, perceptions of relative rank and the negative emotions they foster are mirrored in an individual's antisocial behavior and reduced civic participation, which results in less social capital and cohesion within the community. In this way, perceptions of social rank have negative biological consequences for individuals and negative social and health consequences arising from how individuals interact with others. Psychosocial mechanisms thus serve as the explanatory focus linking individual income and aggregate income inequality to individual and social pathology. (p. 17) [9]

Lynch and colleagues noted that the concept of 'relative deprivation' has not been clearly defined and asked: With whom do people compare themselves? It is likely that people make multiple comparisons, with those who are close to them as well as with others who are more distant, such as those on television. According to social learning theory, people are more likely to be influenced by others who are like themselves. Perhaps this means that comparisons with people in the local community (rather than across the nation or state) are more salient. Yet, income inequality has stronger effects when measured at the state level rather than at the local level. Further, the impact of child poverty on health is stronger when poverty is measured relative to national standards rather than to state standards. Processes of social comparison are complicated and influenced by factors such as the age, gender and cultural background.

The strong version of the psychosocial explanation (as argued by Wilkinson, Marmot and Kawachi) suggests that the stress effects of dominance hierarchies are universal across outcomes, across and within countries, at all levels of income. However, the evidence for this explanation is inconsistent, even in the animal studies on hierarchical social organisations. Lynch and colleagues acknowledged, however, that the strength of claims by these researchers has 'perhaps become more circumspect, diluting them toward the weaker version as research in the field has matured' (pp. 19–20).

The weak version of the psychosocial explanation is difficult to test without knowing more about when it will or will not operate. For example, which outcomes will be affected under what conditions?

On the **neo-material** interpretation, the term *neo*-material reflects the fact that the material conditions that impact health are historically- and disease-specific. That is, for example, the material conditions that affect health in modern times (early 21st century) are different from those that affected health in, say, the 19th century because the mortality structure in the population has shifted from mainly infectious to mainly chronic causes of death.

> A neomaterial interpretation recognises that the total effect of income inequality on health reflects both a lack of resources held by individuals and public underinvestments in the human, physical, health and social infrastructure. An

> unequal income distribution results from historical, cultural and political-economic processes. These processes influence the private resources held by individuals (money to buy housing, healthy food, opportunities to exercise, medical care) and also shape the nature and availability of a health-supportive public infrastructure — the types and quality of education, health services, transportation, environmental controls, food availability, recreational facilities, housing stock, occupational health regulations — that form the structural matrix of contemporary life influencing health. It is likely that such a structural matrix of living conditions is especially important to the health of the most disadvantaged persons who have fewer individual resources. Thus income inequality may be a manifestation of a cluster of structural conditions that affect population health. This implies that a relationship between income inequality and health is not inevitable, that associations are contingent on the level and distribution of other social resources. (pp. 20–21) [9]

That is, public infrastructure is more important than income inequality *per se*.

Results of systematic review of studies of income inequality and health

The results of Lynch and colleagues' systematic review of the research on income inequality and health can be summarised as follows. International (between-country) studies that compared wealthy countries found that income inequality was not associated with population health differences — at least not as a general phenomenon. The results of national (within-country) studies varied between countries. Within the United States of America:

- In aggregate-level studies (that is, using area-level data only), income inequality was associated with a variety of health outcomes, particularly when state-level data were used.
- In multi-level studies (that is, using area-level data as well as individual-level data), the evidence was mixed, although state-level data was still more consistent.

Studies from countries outside the United States found less evidence of effects of income inequality on health. Little or no effect of income inequality was found from aggregate or multi-level studies from Australia, Belgium, Canada, Denmark, Japan, New Zealand, Spain and Sweden. Some inconsistent effects were found by studies in the United Kingdom, Chile, Russia, Taiwan and Brazil.

In summary, Lynch and colleagues concluded that:

> Overall, there is little support for a "strong" psychosocial version of the income inequality — health hypothesis that it is a major, generalizable determinant of population health among or within rich countries. There may be some support, however, for a "weaker" version, that in some contexts, income inequality contributes to some health outcomes, such as homicide. (p. 82) [9]

Discussion of systematic review of studies of income inequality and health

In attempting to explain the inconsistent findings regarding income inequality and health, Lynch and colleagues made a number of observations. First, Wilkinson's earlier findings demonstrating a relationship between income inequality and health were based upon incomplete data. When the analyses were repeated, the findings could not be replicated.

Second, contextual factors were posited as important in determining whether or not income inequality impacted health. For example, the lack of relationship between income inequality and health in Canada[a] could have been due to a number of contextual differences between Canada and the United States. These include Canada's more substantial tax/transfer system which might blur relationships between income and health; Canada's universal health care (whereas health care in the United States is significantly limited for lower-income people); taxation and social policies in Canada that might buffer the effects of market-driven inequality and provide better supports for the most disadvantaged; and the more even spatial concentration of affluence and disadvantage in Canada, which could contribute to a less differentiated availability of public goods and urban amenities between the affluent and the disadvantaged. Lynch and colleagues posited that it might

> not be income inequality per se or the psychosocial environment that drives population health. Rather, what may be most important is the current and historical links between income inequality and the levels and social distribution of health-relevant resources and exposures and how these have played out over the life course of different birth cohorts. (p. 68)

They posited that there is something 'different about the way income inequality is manifested in the United States, suggesting we may need to understand more about the economic, social, political and spatial correlates of US-style income inequality' (p. 69). In fact, research from the United States has identified that income inequality was associated with higher unemployment levels and lower levels of health insurance coverage, social welfare, educational achievement, and educational and medical expenditure.

In concluding, Lynch and colleagues noted that the results of their systematic review do not contradict the evidence that, at the individual level, people with higher incomes are healthier than people with lower incomes. They recommended raising the incomes of poorer people as this will improve their health, reduce inequalities and increase average population health.

Inequalities and drug use and drug outcomes

While the evidence for a link between income inequality and mortality and morbidity is weak outside the United States of America, there is logic to considering that the extent of inequality in a society could impact upon drug-use behaviours. In fact, Lynch and colleagues held open this possibility when they concluded that evidence suggests that 'in some contexts, income inequality contributes to some health outcomes, such as homicide' (p. 82). [9] Given that drug use can be a form of coping with stress, it is not unreasonable to consider that areas or countries that have large gaps between rich and poor and associated anomie, marginalisation, [60] reduced social cohesion and reduced investment in social capital [61] might be more subject to higher rates of drug use and related problems than more egalitarian societies. Also given the relationships between inequality and crime, [62 63] and the relationships between crime and drug abuse, it is possible that there might be a relationship between inequality and drug abuse.

[a] Lynch and colleagues use Canada as an example, but their arguments apply equally to why an impact of income inequality on health was not found in Australia.

While a number of studies of inequality have included smoking and/or alcohol consumption as confounding variables, [64-68] few studies have investigated drug use and related problems as outcome variables. Those that exist have reported mixed results (Table 4). [69-72] For example, Galea, Ahern, Vlahov and colleagues investigated the relationship between income inequality and fatal drug overdoses in New York City. [70] They argued that, given the hypothesised impact of income inequality on social trust, [61] income distribution at the neighbourhood level might be particularly important in the case of drug overdoses. Although people who overdose tend to be in the company of others, those others call for help less than half of the time. This reluctance to call for help might be exacerbated by fear of criminal prosecution or a general mistrust of authority. Galea and colleagues suggested that it is therefore plausible that the risk of fatal overdose might be higher in neighbourhoods where income inequality is higher and social capital is lower compared with other neighbourhoods. Their study did not include measures of social capital or social investment but they did find 'that in neighbourhoods with more unequal income distribution, drug overdose was a more likely cause of accidental death than other causes' (p. 145). This relationship was evident after adjustment was made for individual- and neighbourhood-level covariates including demographic factors, neighbourhood income, racial composition and the level of drug use in the neighbourhood. The evidence on links between income inequality and drug use and drug outcomes is scant and inconsistent and further research is warranted in this area.

Table 4: Studies of income inequality and drug use

Study population	Outcome variable	Adjustment for	Study conclusions
14,838 individuals in 15 industrialised countries	Smoking (never, former, light, heavy)	Individual age, marital status, individual socio-economic position, national cigarette diffusion	Income inequality associated with higher average levels of smoking, but this effect disappeared when Greece was excluded from the analyses. Higher income inequality associated with lower social disparities in smoking. [69]
725 accidental overdose deaths (cases) and 453 accidental deaths due to other causes (controls) in 59 neighbourhoods in New York City	Overdose deaths	Individual-level variables (age, race, sex) and neighbourhood-level variables (income, drug use, racial composition)	Overdose deaths were more likely in neighbourhoods with higher levels of drug use and with more unequal income distribution. [70]
Cross-sectional US national probability sample	Alcohol dependence Symptoms of depression	Individual-level variables (family income, age, race) State-level variables (alcohol tax policy)	'State income inequality does not increase the experience of alcohol dependence' [71]
81,557 individuals in 44 US states	CVD risk factors: BMI, history of hypertension, sedentarism, and smoking	State-level variables: Individual-level variables: income, gender, race/ethnicity, age	'Inequality was positively associated with smoking, but associations were either stronger or only present at higher income levels. Associations of inequality with the outcomes were statistically significant in women but not in men.'[72]

Source: Adapted from Lynch J, Smith G, Harper S, et al. 2004 [9]

DISCUSSION AND CONCLUSIONS

Socio-economic factors at multiple levels have an association with the aetiology of drug use and exacerbation of problems among drug users. Studies of people in drug-treatment facilities highlight the extent of this relationship, with low levels of education and high levels of unemployment and homelessness being typical. [73 74] As discussed by Room, [33] drug-dependent people suffer the double stigma and marginalisation of low socio-economic status and drug dependency.

In Australia, further research is needed to describe the relationships and (more importantly) to explain links between socio-economic disadvantage, absolute and relative deprivation, and drug use. Although the relationships are complex and inconsistent, it is fair to say that socio-economic status can impact upon drug-use behaviours and problems of individuals, families and communities. However, these relationships will vary with the measure of drug use, the measure of socio-economic status, the group

characteristics and the context. These findings have implications for program and policy targeting, as well as adding weight to the need to address the widening socio-economic disadvantage in our country.

Whether income inequality is an issue for the drugs field in Australia is a matter for consideration, debate and research. In the meantime, there are clearly inequities in drug-use patterns and problems. Low socio-economic status-individuals and groups are disproportionately affected by drug-related problems. The evidence is sufficient for justifying the need to address these inequities (for example, ensuring accessibility of effective treatments for low-income people), and working to address socio-economic disadvantage, particularly where it is concentrated — geographically and socially.

In terms of addressing such inequities, the experience of those concerned with addressing health inequalities is helpful. [75-77] Most emphasise a multi-level approach, addressing not just the inequities in outcomes, but also the causes of those inequities. For example, Mackenback and Stronks described the Dutch approach, which targets the relationship between socio-economic disadvantage and health at four 'entry points'. These include targets relating to socio-economic disadvantage, targets to address effects of health on socio-economic disadvantage, targets related to factors mediating the effect of socio-economic disadvantage on health, and targets related to accessibility and quality of health care services. [78] Using this multiple entry-point approach, a strategy for addressing drug inequalities could target:

- socio-economic disadvantage, for example, reducing child poverty [79]
- the effects of drug use on socio-economic disadvantage, for example, increasing employment rates among drug-dependent people
- factors mediating the effect of socio-economic disadvantage on drug use, for example, increasing access to early childhood education and care for lower-income parents [80] and the percentage of low socio-economic status children entering tertiary education [81]
- accessibility and quality of interventions, for example, nicotine patches could be provided free to low-income people. [24]

With the links established between drug abuse and crime, the experience of the crime prevention field is also useful. Weatherburn and Lind conducted a careful and thorough analysis of theories and evidence relevant to the association between crime and economic disadvantage. [46] A number of theories on this relationship, in particular, theories positing that economic stress directly causes crime, were described and discounted in light of research evidence. Weatherburn and Lind did, however, find support for the notion that economic and social stresses contribute to crime via their impact upon parenting, which makes young people more prone to negative peer influences:

> studies indicate that economic and social stress, under certain conditions, reduce the level of parental supervision, weaken the level of parent–child attachment and produce parental discipline which is harsh, erratic and inconsistent. These conditions, in turn, increase the risk of involvement in crime, at least in part because they facilitate or encourage association with delinquent peers. (p. 2) [46]

Weatherburn and Lind's recommendations for ways in which government can prevent crime are relevant for the prevention of drug abuse. Noting that most crimes are committed by a small number of offenders, they stated that the fundamental task for

government is to reduce the number of offenders. To do this, they recommended that governments reduce poverty and unemployment; provide good-quality childcare; ensure effective child maintenance when children are raised by a single parent; implement labour market programs that reduce the level of long-term unemployment and provide tax credits for entry-level jobs; reduce the spatial concentration of disadvantage; support social capital (for example, working in a more coordinated fashion to support local communities, rather than in 'silos'); and provide effective early intervention programs, such as parental support in the first few years of their child's life. In relation to reducing economic stress by reducing poverty and unemployment, Weatherburn and Lind noted that, for a number of reasons, simply stimulating economic growth is not sufficient for achieving this aim. They outlined how economic growth does not necessarily stimulate employment growth: it is possible to have low unemployment rates while some groups exist in long-term unemployment (single-parents were provided as an example of a group who, without adequate assistance in obtaining childcare, will remain with the choice between child neglect and poverty); the spatial concentration of unemployment and poverty is as important as their overall prevalence and economic growth does not necessarily change this spatial concentration; and general economic growth does not target the long-term unemployed, who are most likely to be involved in crime. If increasing employment is to be a primary means of reducing crime, Weatherburn and Lind argued that the provision of good-quality childcare is especially important. However, to be effective in crime prevention, childcare should not simply be for supervision purposes, but should contribute to child development:

> (Childcare) should aim to improve the child's cognitive and reasoning skills, discourage disruptive behaviour, and increase the ability of parents to manage their children. (p. 166) [46]

In short, addressing the negative impacts of economic disadvantage entails more than a focus on economic growth.

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CHAPTER 5: PHYSICAL ENVIRONMENT

Introduction

The physical environment includes housing and public spaces of varying quality and accessibility. Accessibility is affected by spatial patterns (for example, suburban sprawl and geographic isolation) as well as transport. Aspects of the physical environment have been associated with physical and mental health [1] and crime. [2] Consequently, the physical environment and more specifically urban planning have been of increasing interest in public health [3 4] and crime prevention. [5] This interest is reflected in projects such as the United Nations Children's Fund (UNICEF) Child Friendly Cities program,[a] the United Nations Educational, Scientific and Cultural Organization (UNESCO) Growing Up In Cities project,[b] the World Health Organization (WHO) Healthy Cities Project,[c] and the United Kingdom's Urban Policy and Neighbourhood Renewal Program.[d] This chapter presents research relating to the impacts of various dimensions of the physical environment on health and crime outcomes (and drug-use outcomes where available) and concludes with a consideration of the importance of the physical environment for drug outcomes.

Housing

A number of reviews have studied the impacts of housing on health, crime and the socio-cultural environment. Relevant points from reviews conducted in Canada [6] and at the Australian Housing and Urban Research Institute [7 8] are summarised below.

In his review on the impacts of housing and health, Dunn reported on research on the impacts of housing on mental health and social relations. [6] In relation to mental health, research has indicated that living in substandard dwellings can contribute an additional source of stress to people with lower incomes and result in psychological distress. Housing was also found to be important in relation to social inequalities:

> housing is a crucial site in the day-to-day life of most individuals for the distribution of wealth, control over life circumstances, and access to social resources, as well as being an important factor in processes of social identity formation, and the establishment and maintenance of social relationships. (p. 352) [6]

For example, the quality and quantity of social support received by individuals can be influenced by the suitability of their home for social interaction. Housing that is too crowded to allow private conversation, in which guests are not allowed (for example, in some boarding houses where tenants are not allowed to have visitors) or which is unclean and in disrepair, so the individual is ashamed to invite friends or friends do not

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[a] www.childfriendlycities.org
[b] www.unesco.org/most/guic/guicmain.htm
c www.who.dk/healthy-cities
[d] www.neighbourhood.gov.uk/ and www.odpm.gov.uk/stellent/groups/odpm_urbanpolicy/documents/sectionhomepage/odpm_urbanpolicy_page.hcsp

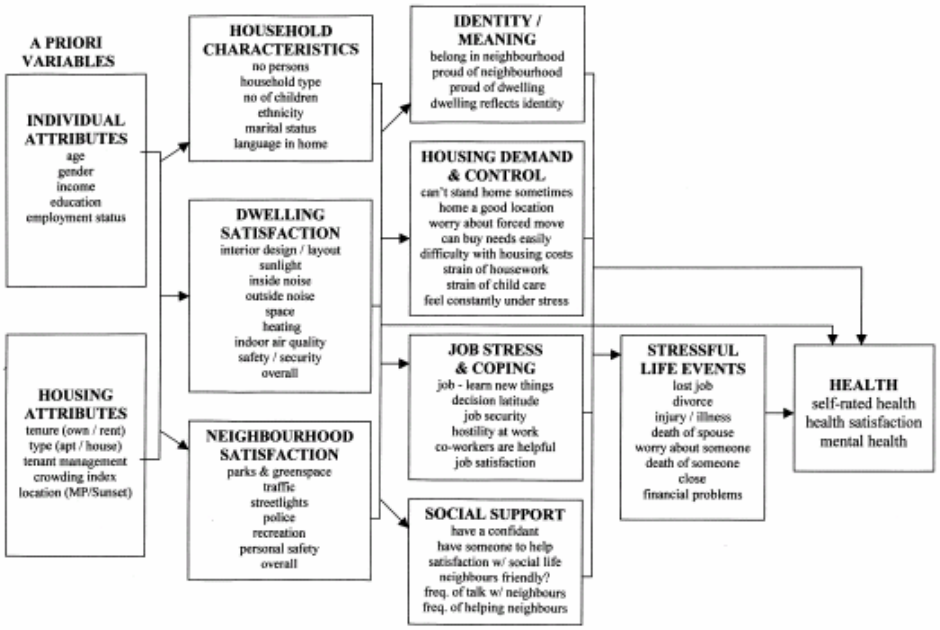
wish to visit, can all impact upon the ability to interact with friends in the home and receive social support. Dunn concluded:

> The importance of housing to the relationship between social support and health, in short, follows from the importance we place on the home as the centre of an individual's meaningful world — as a place to receive guests, as a base for day-to-day life, and as an expression of their own self-identity. (p. 356) [6]

Research has demonstrated the importance, in relieving stress and enhancing one's health, of being able to exercise control in the course of one's job. Dunn argued that homes are similarly important because they are the one place that people might have a sense of control over the space around them. This is particularly important for people who work in jobs in which they have little control over their work environment, which is most likely to be the case for people in low-status jobs.

Dunn and Hayes developed a framework for how housing can influence health by contributing to the construction of identity and meaning, the experiences of stress and control, and the receipt of social support. [9]. Their model is reproduced in Figure 1.

Figure 1: A model for housing and health



Source: Dunn and Hayes, 2000, p.565 [9]

Dunn and colleagues tested their model of housing and health by surveying residents from Vancouver neighbourhoods. [9 10] Their research suggested that housing is a significant engine of social inequality that has both material and psychosocial dimensions which may contribute to health differences. Their research indicated that the meaningful dimension of housing (including satisfaction and sense of control) was empirically linked to self-reported physical and mental health. After controlling for age, gender and education, housing tenure, housing demand and housing control were associated with both physical and mental health, while neighbour friendliness was also associated with mental health. Dunn and Hayes found that housing dimensions did not contribute to health as strongly as self-assessed stress and social support. However, they suggested that

housing factors may act to directly and indirectly modify these influences on health status. [9 10] The relevance of Dunn and Hayes' model for drug use is apparent.

Mullins, Western and Broadbent, from the Australian Housing and Urban Research Institute, reviewed evidence for the association between housing and nine key socio-cultural outcomes: community, crime, poverty, social exclusion, perceived well-being (subjective quality of life), anomie, health, education and labour force participation. [8] They described their 'main' conclusion as being 'the need for caution in claiming a causal link between housing and non-housing outcomes' (p. 4). [8] While relationships were found between housing and these socio-cultural outcomes, some of which appeared causal, Mullins and colleagues cautioned that, in most cases, the relationships could be explained by characteristics of the people living in the particular types of housing rather than the housing itself. Therefore they argued that changing housing might not, in itself, change the associated social problems. Further, they noted that the quantity and quality of evidence that does exist are variable, so conclusions need to be drawn with caution. Given these overriding cautions, Mullins and colleagues did conclude that clear relationships were found in some instances:

> from the evidence reviewed, there does appear to be a clear relationship between housing and crime, housing and education, housing and health, housing and social exclusion, and housing and poverty. A relationship has also been demonstrated between housing and labour markets, but it is imprecise. The relationship between housing and community — a critical relationship for policy purposes — is also vague. The nature of the relationship between housing and perceived well-being, and housing and anomie, is not apparent because of the absence of research.
>
> With regard to causality, housing has been shown to have a clear negative impact upon residents' health, and upon the educational attainment of children, but in both cases this happens under very specific circumstances; it occurs in the poorest quality housing; that which accommodates the most disadvantaged. (p. 4) [8]

With regard to crime, Mullins and colleagues concluded that housing does not *cause* crime, but that areas with high rates of low-income and public housing tend to have higher than average crime rates, and some physical features of housing can facilitate crime. For example, fire escapes on apartment blocks facilitate robbery, play areas that do not facilitate parental supervision can make children vulnerable to assault. [8] Much of the research examining housing and health is related to physical health (for example, housing that is cold and damp contributes to respiratory ailments). However, some research also indicated that overcrowded housing exacerbates depression, fatigue, family discord and psychological distress. These outcomes could contribute to drug use.

Mullins and colleagues regarded social exclusion as related to housing, largely because poor housing is one of the cluster of problems associated with social exclusion. Housing in this case relates more to locational disadvantage (for example, in metropolitan fringes away from transport, employment, health care and education) rather than the quality of housing. The issue of social exclusion and housing is discussed below. Poverty is also related to housing, in that poorer people can afford poorer housing, and this housing can be in areas of high unemployment with few job prospects.

With links established between educational commitment and attainment and drug use, [11] perhaps the impact of housing on educational achievement is of greater import for this report. Mullins and colleagues concluded:

> There is a clear link between housing and children's educational attainment, although the socio-economic position of parents is a fundamental intervening variable. Overcrowding, noise and homelessness negatively affect the educational attainment of children. (p. 34) [8]

Arthurson and Jacobs, also from the Australian Housing and Urban Research Institute, conducted a literature review on the relevance of social exclusion for housing policy. [7] Their summary table showing key elements of housing, their relationship to social exclusion and the resulting outcomes is presented in Table 1. The table highlights that inadequate housing affects the experience of stigma, participation in recreational activities, education, access to employment, and homelessness. Arthurson and Jacobs argued that the interconnected and relational nature of the concept of social exclusion provides an argument for the need for coordination between housing policies and other social policies:

> the concept of social exclusion can be used to endorse housing policies to adopt a multi-agency or "joined up" government approach in which problems are not tackled in isolation but addressed at the source. Such approaches recognise the complexity and interrelated nature of inequality. Thus, policy interventions to address social exclusion stress the need to coordinate housing policy with investment in education, transport, employment and training and crime prevention. (p. ii) [7]

Table 1: Key elements of housing and its relationship to social exclusion

Key elements of housing	Relationship to social exclusion	Outcomes
Cost/affordability Capacity of individuals/ households to meet housing costs out of available income and have sufficient income to meet other basic needs, e.g. food, clothing, education and health care	• Rent-setting policies and practice — for low-income households if rental payments in relation to income are too high • Reduced income available to spend on other factors, e.g. health and food • Participation in consumption and recreational activities compromised • Inability to pay rent/arrears • Poverty traps, i.e. social housing rents rise for tenants on welfare benefits as income increases. Provides disincentive to move from welfare benefits to paid employment • Homeownership policies — when mortgage repayments for low-income homebuyers in relation to income are too high, have assets but income-poor	• Poor health, education • Poverty • Eviction/ homelessness • Trapped on benefits • Poverty • Poor health • Eviction/ homelessness
Accessibility/availability Refers to whether or not low-income housing is available to meet demand. Also whether households can move to other dwellings within same or between different tenures	• Lack of access to affordable housing • Needs-based allocation policies for social housing potentially inclusive but lead to stigma, poverty concentrations • As home ownership declines, people who would have become home owners remain renting in private rental — displaces lower-income tenants in other tenures	• Homelessness • Poverty • Residualisation • Poverty
Security of tenure Extent to which home owners, purchasers or renters are guaranteed continued occupation of housing	• Where no security of tenure, families may have to move sporadically • Insecure accommodation may affect an ability to maintain employment	• Educational outcomes compromised • Income levels likely to be affected adversely
Appropriateness Refers to whether housing meets needs of occupants in terms of: • appearance • locality • quality • suitability: household size/age of occupants	• Concentration effects, impoverished socials networks, employer stigma • Lack of services, e.g. shops, banks • Poor social and physical environments due too inadequately maintained housing • Overcrowding	• Access to employment, education and other services compromised • Poor health, educational, employment prospects • Lack of mobility

Source: 'Social exclusion and housing', p. 16 [7]

There are few studies that directly investigate the effects of housing on drug use. Research has linked housing conditions during childhood to lung cancer, although most of this association appears to be due to socio-economic position in adulthood. [12] An Australian Housing and Urban Research Institute study by Bessant, Coupland, Dalton and colleagues is investigating how accommodation options affect access to services and

the well-being of heroin users. [13] Conclusions based on their review of the literature and qualitative data suggest that secure and suitable housing has a number of specific benefits for heroin users. Good housing enabled heroin users to look beyond the 'survival mode' and was associated with a range of general health benefits (including better nutrition, adequate sleep and improved personal hygiene) and mental health benefits (homelessness was associated with feeling depressed, 'having no future' and low self-esteem). Good housing could minimise the potential for drug- and injecting-related harm. For example, heroin users indicated that having access to a 'home', or at least a protected environment in which to inject, affected their ability to keep a supply of clean injecting equipment available. Further, housing influenced the degree of control heroin users had over their environment; for example, enabling them to limit the number of other people present and thereby affecting opportunities for sharing injecting equipment. Injecting in public places or squats, on the other hand, was associated with high-risk injecting practices. Public injecting has been associated with injecting quickly and furtively in dark places with implications for safety of injecting and disposal of injecting equipment. With regard to squats:

> In this environment, drug use often involves groups of people. Consequently, users may be more likely to share injecting equipment and higher volumes of used injecting equipment may result in an increased risk of needle-stick injuries. Furthermore, squats are frequently littered with discarded needles, needle-stick injuries posing a very real public health threat. (p. 51) [13]

Further, housing was described as making a significant contribution to alleviating social disadvantage by enhancing an individual's capacity to take advantage of education, employment and other opportunities.

Bessant, Coupland, Dalton and colleagues also reviewed the literature on the relationship between drug use and homelessness as part of their study of heroin users and housing. They outlined four broad ways in which homelessness and drug use might interact:

- Drug use can act as a precursor to homelessness, where an individual's drug use results in financial difficulties or relationship problems which then contribute to becoming homeless.
- Drug use can begin as a way of coping with homelessness (for example, self-medication).
- Homelessness can exacerbate drug use and associated problems (and vice versa) via its impact on an individual's ability to access health and welfare services.
- Homelessness can exacerbate problems associated with drug use as it makes drug users more vulnerable to problematic drug use and chaotic and dangerous drug-using practices. [13]

In summary, the research on the impacts of housing on health and social outcomes suggests that housing quality can impact upon a number of risk factors for drug abuse, including educational achievement, employment, participation in recreational activities, stress, social supports, self-identity and psychological health. However, little research has concentrated on housing as an aetiological risk factor for drug abuse. Housing does appear to be important, however, for the health and welfare of drug users, providing a safe and stable environment in what can be an otherwise chaotic life. [14]

Spatial Patterns

The spatial patterns of housing discussed in this section are (a) the concentration of public housing,[e] (b) suburban sprawl, and (c) geographic isolation in rural and remote communities.

Concentration of public housing

Areas marked by high concentration of public housing have been associated with drug markets, drug use and drug-related problems. In their review of the literature, Bessant and colleagues described how recent research has documented increases in drug-related activity on public housing estates in Australia and international research has documented higher rates of drug use in public housing estates than in the general community. [13] Public housing estates have, in some cases, become "'catchment areas" for low-income residents beset by crime and poverty' (p. 9), [13] with eligibility requirements for public housing meaning that this composition is inevitable. The concentration of disadvantage has resulted in a situation where public-housing estates are stigmatised as 'centres of crime, poverty and drug use' (p. 10), [13] which adds to the problems faced by occupants of such estates. In some cases, public-housing estates are becoming a wasted resource with people in need of public housing refusing vacancies out of fear of exposure to such environments. For example, Bessant and colleagues reported how acceptances of public housing on inner-city estates in the City of Yarra (Melbourne) as a percentage of offers ranged from 17 to 50 per cent, depending upon the reputation of the area. [13] Accordingly, they concluded that drug use and drug markets in some public-housing estates have made them so unpopular that the capacity of public housing authorities to provide secure, affordable housing has been diminished. [13]

Dalton and Rowe discussed how the illicit drug trade has undermined public housing in Australia, where some housing estates have become established centres of heroin dealing and drug use. [15] They reported that significant problems have resulted, as applicants have rejected offers of housing on the estates, tenants have applied for transfers, and housing officers have faced workplace occupational health and safety issues. Dalton and Rowe's qualitative research with heroin users in public housing highlighted four reasons for the attraction of high-rise, public-housing estates to drug dealers: their metropolitan location, making them geographically accessible; the physical design incorporating stairwells, lifts, utility rooms, walkways and foyers, which make police operations difficult; the shared suspicion of law enforcement among high-rise residents — an 'us and them' mentality — which enables news of police operations to spread quickly; and internal demand for drugs among the residents. [15]

From a developmental perspective, illicit drug markets in areas with a high concentration of public housing are clearly an environmental risk factor for the children and young people growing up in those areas. These young people are exposed to norms of drug use and criminal behaviour as well as to high levels of drug availability. In such areas, there is a need to (a) address the existence of illicit drug markets in public housing estates, and (b) reduce the concentration of public housing in areas of high concentration.

Dalton and Rowe outlined two strategies for addressing the illicit drug trade in housing estates. These two approaches are not mutually exclusive. The first approach was to renovate the existing 'social arrangement' through additional security measures aimed at

[e] The more general issue of geographic concentration of economically disadvantage people into disadvantaged communities is discussed in Chapter 4.

pushing the drug trade out of the estates and introducing programs that renew community amenity and participation. Dalton and Rowe described how the Office of Housing in partnership with the Victorian Police and non-government organisations have been renovating the existing social arrangements of estates via increased security (including electronic card access, 24-hour security presence, locking toilets, security cameras) and a tenancy verification program. While these actions have reportedly improved the situation, Dalton and Rowe suggested that they have been insufficient and that the problem would return when police turned their attention elsewhere. The second approach was to establish a new 'social arrangement' outside the estates to 'pull' drug sellers elsewhere. Dalton and Rowe acknowledged that the proposal of a regulated heroin market is controversial. However, they cited the regulation of the illicit sex industry as an example to suggest that a regulated heroin market is feasible. [15]

In relation to reducing the concentration of public housing, Randolph and colleagues from the Australian Housing and Urban Research Institute described a range of strategies for 'tenure diversification' or the transfer of public housing to alternative forms of ownership. [16] They noted that there is little research on the benefits of tenure diversification, but argued that it can achieve a range of inter-related objectives, including (among others):

- breaking up concentrations of public housing
- encouraging home ownership and alternative housing assistance options for lower income households
- achieving a greater social mix and balance
- reducing stigma and 'normalising' estates.

Fauth, Leventhal and Brooks-Gunn reported on an analysis of data from an evaluation of a city-wide desegregation of public housing in Yonkers, New York. [17] The evaluation investigated differences in a range of outcomes between families who were relocated to low-poverty neighbourhoods ('movers', n=173 families) and demographically similar families who remained in high-poverty neighbourhoods ('stayers', n=142 families). Data were collected two years after movers were relocated. Analyses controlled for background variables at the individual level (age, gender, race/ethnicity, education) and family level (gender of household head, number of children in household). This is one of the few studies of public housing that explicitly investigated the impact of relocation on families in relation to a drug outcome (alcohol-abuse symptoms). In comparison with stayers, movers were significantly less likely to report they perceived their neighbourhoods as dangerous, to report victimisation within the previous year, to characterise their neighbourhoods as disordered or to report problems with housing quality. Movers were more likely to view their new neighbourhoods as cohesive and were more satisfied with neighbourhood resources. In terms of personal outcomes, movers reported significantly less alcohol-abuse symptoms, fewer physical health problems, higher rates of employment, and less cash assistance. There was no significant difference between the groups with respect to drug-abuse symptoms. Fauth and colleagues posited that a range of social factors contributed to the reduction in alcohol-abuse symptoms among movers relative to stayers:

> Program effects on neighborhood disorder and cohesion may have influenced movers' alcohol abuse rates as well. That is, alcohol abuse may be more heavily sanctioned in the low-poverty mover neighborhoods compared with the high-poverty stayer neighborhoods, where respondents were more likely to experience

> public drinking and drugging and less likely to experience shared values and problem solving. Moreover, alcohol use may be a coping strategy used by residents of unsafe, impoverished neighborhoods. Removing adults from this stressful environment may have led to less frequent use of alcohol (compared with stayers). (p. 2278) [17]

It was noted that movers reported significantly less frequent social interactions with neighbours than stayers. Fauth and colleagues speculated that this situation might improve with time:

> As time has progressed and the contention over the desegregation efforts has been assuaged, movers may be gradually accepted into their middle-income neighborhoods, which will enable them to form connections with their neighbors. (p. 2280) [17]

Overall, the authors concluded that rehousing low-income minority families in low-poverty, primarily "White" areas is an effective strategy for improving adults' economic well-being, safety and satisfaction with resources. Their results suggest that desegregating public housing can have positive impacts upon alcohol abuse. There was no evidence of positive impacts on illicit drug abuse, which seems more difficult to modify.

Suburban sprawl

Cities have spread out creating what is known as 'suburban sprawl'. This is partly due to increases in population, but also the result of earlier beliefs that high-density living was 'unhealthy' for individuals and communities. However, more recently, the negative impacts of suburban sprawl have been identified. For example, suburban sprawl has reportedly reduced social connections, civic participation and access to services and facilities. [18] These factors have contributed to outer suburban areas becoming less attractive places to live and property values have declined, making them affordable to low-income people. This in turn has contributed to concentrations of disadvantage in the outer suburbs and social exclusion of low-income people, particularly when public transport is inadequate. Consequently, density and transport have become issues in research on the social determinants of health. [19] As argued by Newman:

> Today, the problems of our settlements (environmental, social and economic) revolve around the struggle to maintain and develop community. Health issues are now being related to this loss of community as well. Our research has tried to indicate that there is a link between this loss of community and the density/transport base of a city. When densities reach such low levels that settlements are car dependent, then the notions of a community become very difficult to maintain as the opportunities for 'accidental interaction' are reduced, even for children. (p. 161) [20]

Newman's research has indicated that densities of less than 30 people per hectare made walking and public transport unviable. He acknowledged that a sense of community can exist at density levels below 30 people per hectare, but noted that this was largely based upon planned trips and mainly dependent upon motor cars. Newman asserted that most of Australia's inner suburbs are above the critical density of 30 per hectare, but the new outer suburbs are all below 12 to 15 per hectare and continue to be planned that way.

Few studies have looked specifically at drug use by suburban youth, [21] [22] and no research has looked specifically at the impact of suburban sprawl on drug use. Interestingly, Luthar and D'Avanzo's study in the United States of America identified higher rates of drug use, anxiety and depression among a sample of affluent suburban youth relative to socio-economically disadvantaged inner-city youth, as well as 'surprisingly high' adjustment problems. [21] However, the study did not investigate the role of suburban sprawl in this result. Whether or not suburban sprawl and transport are relevant to drug use is an issue of speculation. However, if they do affect the well-being of communities via their impact on social supports, social cohesion and stress and contribute to social exclusion via their impact on access to resources for education, health, employment and recreation, there is logic in also considering their influence on drug use.

Rural/remote location

Health differentials have been found between people in urban areas and people in rural/remote areas in the United Kingdom, [23] the United States [24] and Australia. [25] Health has been found to be particularly poor in remote areas where infrastructure is sparse. [26] Sundquist and Frank reviewed the international literature on urbanisation and alcohol and drug abuse, and found mixed results. [27] The relationship between urban and rural use and outcomes varied with the type of drug and the country. A number of studies reported finding higher rates of use and problems in urban areas compared with rural areas. For example, a study from Britain identified higher rates of drug abuse in urban areas than in rural areas, a finding attributable largely to more adverse living circumstances among individuals in urban environments. [27]

Data from the 1992 National Longitudinal Alcohol Epidemiologic Study identified that the proportion of adult drinkers in the United States of America was higher in urban than in rural areas. A cross-national comparison between the United States and the United Kingdom showed that living in an urban setting increased the occurrence of drug dependence. The opposite pattern was also reported in other research. For example, a study in North Carolina found higher rates of drug dependence but lower rates of alcohol dependence in urban areas relative to rural areas. Other studies have found little or no difference between alcohol and drug outcomes in urban and rural areas. A recent literature review suggested that a variety of socio-demographic factors were more powerful predictors of substance abuse than the location of urban or rural residence. Other research has demonstrated how the relationship between rural and urban drug and alcohol use is changing in some areas. For example, in Galicia, Spain, the traditional rural model of drinking predominated even though an urban consumer model was growing quickly. Research has also reported interactions between urban/rural location and other variables (for example, education). In South Korea, alcoholism among older men was associated with lower education in the rural sample and higher education in the urban sample.

Data from the 2001 National Drug Strategy Household Survey identified slightly higher rates of smoking and risky/harmful alcohol use in rural areas relative to urban areas, but slightly higher rates of illicit drug use in urban areas (Table 2). [28] The higher rates of risky drinking in rural areas were reflected in higher rates of alcohol-attributable deaths among 15–24 year olds in rural areas relative to metropolitan areas. [29] Yet the urban–rural difference in illicit drug use appears to be reducing. Donnermeyer, Barclay and Jobes' study of drug-related offences in Australia suggested that illicit drug use appears to be becoming more widespread in rural areas of Australia. [30]

Table 2: Drug use in urban vs rural/remote areas

	Geography	
	Urban	**Rural/ remote**
Tobacco smoking status		
Smoker	23	25
Not recent or never smoker	78	75
Risk of long-term alcohol-related harm		
Abstainer	18	17
Low risk	73	71
Risky/high risk	9	11
Risk of short-term alcohol-related harm		
Abstainer	18	17
Low risk	49	47
Risky/high risk	34	36
Use of any illicit drug		
Recent use	17	16
Not used recently/ever	83	84
Use of any illicit drug except marijuana/cannabis		
Recent use	9	7
Not used recently/ever	91	93
Use of marijuana/cannabis		
Recent use	13	12
Not used recently/ever	87	88

Source: 2001 National Drug Strategy Household Survey, 2002, p. 110 [28]

Given that urban/rural differences in drug-use patterns are not consistent, it is likely that differences exist only in certain contexts. Urban versus rural/remote location could affect drug use when the location is associated with access to resources, [31] unemployment, [32] boredom, [33 34] social capital [35] or social isolation. [36] For example, qualitative research that was part of a state-wide study of youth access to services in New South Wales reported that rural adolescents expressed concerns about limited educational, employment and recreational opportunities. These issues were not raised by the urban adolescents in the study. Further, these access issues were believed to contribute to the adolescents' risk-taking behaviour. For example, a 15-year-old girl commented: 'A lot of people have nothing to do, so they just get drunk, stoned or on drugs' (p. 7). [31] The authors concluded:

> Major structural changes are required to create educational, employment and recreational opportunities in rural areas so that more adolescents are actively engaged which should reduce the incidence of risk-taking behaviour attributable to 'having nothing to do'. (p. 8) [31]

Community physical disorder

The 'broken windows' theory of community crime purports that areas that appear disorderly attract crime because they portray a message that the community does not care. [37] Disorder can be physical or behavioural. Physical indicators include graffiti, litter and disrepair. Behavioural indicators include public urination and loutish behaviour. The

situation is exacerbated when law-abiding citizens avoid such areas for fear of crime, thus reducing the informal controls in the community. This theory has been the basis for the use of strict enforcement of minor criminal conduct (that is, zero-tolerance policing) to reduce crime. [38 39]

In Chicago, Sampson and colleagues have investigated the impact of physical disorder on crime, and Cohen and colleagues have investigated the impact of physical disorder on health outcomes. Both investigations also considered other community variables, in particular, collective efficacy. [40-43]

Cohen, Farley and Mason analysed data from the Project on Human Development to investigate whether the social and physical environment mediated the relationship between socio-economic status and health (mortality from cardiovascular disease and homicide). [40] Predictor variables included concentrated disadvantage, residential stability, immigrant concentration, collective efficacy and 'broken windows' (boarded-up stores and homes, litter and graffiti). The authors concluded that 'The constructs of collective efficacy and broken windows are likely to be two mechanisms through which relative poverty leads to poor health' (p. 1639). [40] They suggested some possible reasons for the observed association between broken windows and physical health. For example, the physical environment could affect a person's ability to develop supportive relationships with one's neighbours, as people might be more likely to spend time outdoors when the neighbourhood environment is pleasant. This would increase the likelihood that they would see and meet their neighbours and gain some familiarity with them or even have positive social interactions. Similarly, an unpleasant physical environment might not be conducive to physical activity, thus impacting on physical and mental health. Further, an interaction between physical disorder and collective efficacy was identified, such that collective efficacy did not exert an independent effect on health in deteriorated neighbourhoods. This result points to the importance of the physical environment for community strength:

> the lack of an independent effect of collective efficacy in deteriorated neighborhoods suggests that it may not be a viable leverage point for reducing premature mortality in these conditions. The physical stigma of poverty and the implied tolerance of deviant behaviors in areas marked by graffiti and boarded-up homes may overwhelm the ability of people to act cooperatively for the greater good. The physical environment may act as a threshold such that beyond a certain point of deterioration, it may not be possible to actually initiate viable or sustainable voluntary organizations where there are no appropriate physical infrastructures to house them nor complementary structures that could provide additional support. (p. 1639) [40]

Sampson and colleagues conducted similar research examining physical and social disorder, the relationship between the two, and their respective impacts on crime. [41-43] They found that physical and social disorder and crime arose from concentrated poverty and the associated absence of social resources. [43] Specific findings were:

- Social disorder and physical disorder were directly linked to the level of robbery but not to homicide.
- Where collective efficacy was strong, levels of physical and social disorder were correspondingly low (after controlling for socio-demographic characteristics and

residents' perceptions of how much crime and disorder there was in the neighbourhood). Collective efficacy appeared to deter disorder.
- In neighbourhoods where collective efficacy was strong, rates of violence were low regardless of socio-demographic composition and the amount of disorder observed.

These findings did not support the 'broken windows' theory that disorder directly causes crime. Rather, they suggested that disorder and crime have similar roots. Consequently, reducing disorder might reduce crime indirectly by stabilising neighbourhoods via collective efficacy. [43] Sampson, Morenoff and Gannon-Rowley concluded with respect to the relationship between physical disorder and crime that further research is needed to determine whether 'disorder is etiologically analogous to crime, a cause of crime, a mechanism that has independent consequences for mental health, or some combination thereof' (p. 465). [44]

In summary, physical disorder, social disorder and concentrated poverty tend to be correlated and to each contribute to crime. Sampson and colleagues argued that collective efficacy can offset these impacts on crime, while Cohen and colleagues' research suggested that collective efficacy loses its impact when physical disorder is extensive. Research specifically investigating the impact of physical disorder on drug use was not found. However, given the relationship between drug abuse and crime (Chapter 1), physical disorder might be relevant to drug-use behaviours.

Transport and traffic

The importance of transport for health was reinforced in the 1998 Acheson Report on the effect of poverty on health. [45] Acheson stated that, of all the changes he would wish to make, improving public transport was the major priority, as it would have the biggest impact on the lives of the poorest communities. Transport poverty can affect health via its impact on social exclusion, access to services, and physical exercise, all of which can contribute to anxiety, stress, depression, loneliness and a general reduction in well-being. [18 46 47] In relation to social exclusion, the Office of the United Kingdom's Deputy Prime Minister reported that:

> Poor transport contributes to social exclusion in two ways. First, it can stop people from participating in work, learning, health care, food shopping and other activities, such as volunteering and community participation. Second, people in deprived communities also suffer the worst effects of road traffic through pollution and pedestrian accidents. Poor transport has costs for individuals, businesses, communities and the state.
> From UK Report on Transport and Social Exclusion [48]

By their impact on social exclusion, transport policies can also exacerbate socio-economic and health inequalities, as those who cannot afford a car have restricted access to work and services. As reported by the United Kingdom Social Exclusion Unit, one in four people experiences difficulty accessing mental health services through an inability to pay for transport. [49])

Research from the Australian Housing and Urban Research Institute examined how transport (among other factors) can create disincentives and barriers to taking up paid work or working longer. They interviewed 400 renters (in both the public and private sectors in Sydney and Melbourne) who were actively seeking work.

> location of housing relative to jobs can contribute to work disincentives, with a majority of respondents stating that this provided one or more of the three main difficulties they faced in getting a job. Most respondents did not own a car and, unless jobs were located nearby, searching for and getting to work posed a major problem. Unemployed renters overwhelmingly saw travel as the main additional cost they faced when they got a job. This may relate to either the costs of public transport or the perceived need to drive to work. (p. 53) [50]

Studies in the United States and in Europe have shown that people who live in streets with less traffic (speed and volume) have more social contacts, a better quality of life (measured, for example, by counts of street activities, open windows, flower boxes and other signs of personal care) and are perceived by families to be more friendly, safer and less stressful. [18].

Dora and Phillips reviewed the research on the impacts of traffic density on children's development. [47] They noted how children are decreasingly allowed to walk in their community, as parents are worried about accidents. The space within which children can move freely shrinks significantly as street traffic increases. As parents have become busier and have less spare time, children's physical activity and social contacts have diminished. These trends reportedly have long-term impacts on physical well-being. They hinder personal development, as children spend less time interacting with peers, and affect children's stamina, alertness at school and academic performance. [47] Access to public transport and the perceived safety of public transport can also be a barrier to young people participating in activities outside school hours. Children with parents who work long hours or who do not own a car would be expected to be disproportionately affected by a lack of public transport.

No studies directly linking the effects of transport systems on drug use were found. However, the impacts of transport and traffic on mental health, child development and social exclusion appear relevant to drug use. Further, research on drug-driving, drink-driving and violence around licensed premises highlights the importance of the availability of public transport in reducing these problems. [51] [52] Strategies such as the use of sniffer dogs on trains could be problematic if they result in an increase in drug-driving.

Public spaces

As discussed by Malone, public spaces can facilitate the development of children and young people:

> Ideally towns and cities should be the place where children and youth can socialise, observe and learn about how society functions and contribute to the cultural fabric of a community. They should also be sites where they find refuge, discover nature and find tolerant and caring adults who support them. [53]

However, research on young people in local environments has indicated that the neighbourhood, which once served as a resource for recreation and leisure, no longer supports or provides stimulation for young people. [54] When young people do congregate in public spaces, they tend to be moved on. This can result in their moving to secluded places — separate from informal, adult social control — where they are more likely to be exposed to antisocial and drug-using influences. [55] [56] The 2001 National Drug Strategy Household Survey indicated that young people report alcohol and drug use in public places. Fourteen per cent of adolescent males and 11 per cent of adolescent females

reported that they usually drank alcohol in public places; and 20 per cent of all male respondents and 14 per cent of all female respondents reported that they smoked cannabis in public places. [28]

Despite concern about the issue of youth and public spaces, [55] research evaluating the impacts of the design and management of public spaces on drug use was not found. However, research and debate have examined the issue of public illicit drug use. [57 58] In particular, there have been concerns about balancing the public amenity concerns of the general community with the health concerns of users. While supervised injecting centres address both the health and public amenity impacts of public injecting, [59 60] they have often met with resistance. The use of displacement strategies by police presents an alternative approach to reducing public illicit drug use, which could satisfy community pressures to address public drug markets and drug use. [61] However, there are concerns that such an approach would be at the expense of the health and well-being of drug users. [62]

Drinking or alcohol-related problems — such as assaults — in public spaces have also been an issue of concern, particularly for police. [63] Factors found to contribute to alcohol-related problems in public spaces have included alcohol outlet density, [64] long trading hours [65 66] and the social environment of licensed premises. [67] Numerous strategies have been employed in attempts to minimise the harm associated with public alcohol consumption or intoxicated people in public. These include server training programs (although Stockwell has noted that these are of limited value in the absence of liquor law enforcement); [68] restrictions on opening hours of licensed premises; [66 69] restricting price discounting ('happy hours'); [70] enforcement of compliance with liquor licence conditions; [71] enforcement of liquor laws; [68] restricting liquor outlet density; [64 72-78] liquor accords; [79 80] night patrols for getting intoxicated people off the streets; [81] police enforcement of public order legislation (although problems with this approach have been identified for Aboriginal communities); [82 83] monitoring of public spaces by youth-friendly people other than the police; [84] urban design and planning in collaboration with young people to provide safe venues for young people to 'hang out'; [55 84] restricting the possession and use of alcohol to zero in a whole community, creating what is known as a 'Dry Community' or 'Dry Place'; [85-87] and prohibiting the consumption of alcohol in a public place (these are known as 'alcohol-free zones'). [88-91] These strategies are discussed elsewhere and so will not be examined here. [63 92 93]

Summary and frameworks for drug use

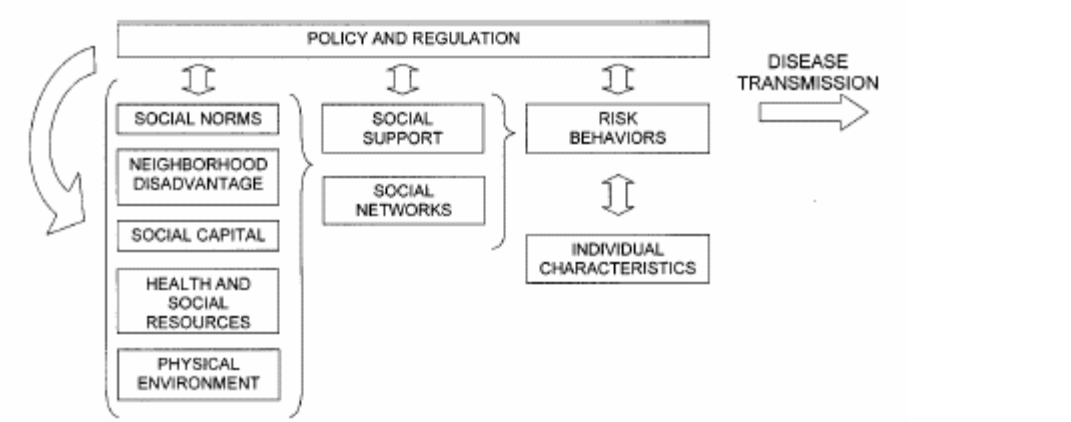
The research presented above outlined how aspects of the physical environment influence a range of individual outcomes (for example, self-identity, stress, mental and physical health, social isolation, educational achievement, employment) and community outcomes (for example, crime rates, drug markets, civic networks). These are summarised in Table 3. While research in this area is limited, there is a suggestion that the physical environment might influence drug-use behaviours indirectly via its impact on these individual and community outcomes. However, the physical environment is only one aspect of the environment and its impact on risk factors for problematic drug use will depend upon other contextual factors such as the social and policy environments.

Table 3: Summary of the impacts of the physical environment on individuals and the social environment

Aspect of the physical environment	General impacts
Housing	
• Housing quality	Self-identity and stigma Depression Social relationships and support Social inequalities
• Overcrowding	Depression Family discord Noise, which impacts: • children's academic attainment • stress
• Cost	Exacerbates poverty and social inequalities
• Availability	Homelessness Insecurity Mobility, which impacts children's academic achievement and socialisation
Spatial patterns	
• Concentrated public housing	Concentration of disadvantage Crime rates Illicit-drug markets Identity and self-esteem Social norms regarding education, employment, crime, drug use
• Geographic isolation: in suburbs, rural and remote communities	Access to resources and opportunities that could reduce: • boredom • unemployment • mental health problems • social isolation
• Community physical disorder	Community perceived as unsafe and unappealing so people stay indoors, resulting in: • reduced social interactions and networks • reduced collective efficacy (a two-way relationship, although collective efficacy can lose its impact when physical disorder is substantial) • reduced exercise
Transport and traffic	
• Increased car dependency and traffic flow	Areas perceived as less safe and friendly → Less walking → Less public interaction Increased stress Constraints on child development: • less exploration of the environment • reduced social contacts • reduced academic performance Effect on drink-driving and drug-driving.
• Exacerbation of impacts of low SES	Reduced access to: • job interviews and employment opportunities • social networks → loneliness, depression • recreation → boredom, motivation
Public spaces	
• Lack of public spaces in which young people can socialise in the presence of adults	Increased exposure to drug markets and antisocial youth Decreased informal social controls from adults and adult role models

Galea, Ahern and Vlahov presented a conceptual framework of the determinants of drug use and related HIV risks. Their framework incorporates the physical environment as well as structural factors (for example, the availability of services) and features of the social environment (for example, social norms, neighbourhood disadvantage, social capital) (Figure 2). [94]. Galea and colleagues discussed how the contextual variables, including features of the physical and social environments, are interrelated and interactive and the relationships between them are multidirectional. As such, a full understanding of each variable role in shaping risk behaviours needs to consider the contribution of the other variables in the framework. Multiple factors (for example, social support and social networks) may mediate the relation between the social and physical environment and individual drug-use risk behaviours.

Figure 2: A conceptual model of the determinants of risk behaviours



Source: Galea, Ahern, Vlahov, 2003, p. 52 [94]

Rhodes has developed a conceptual framework for the 'risk environment' for drug-related harm, which includes the physical, social, economic and policy environments at micro and macro levels (Table 4). [95] He outlined how the physical environment can influence drug use and related outcomes both directly and through interaction with these levels of influence. He described, for example, how drug-related trade and transport networks impact upon the transmission of human immunodeficiency virus (HIV) among injecting drug users. For example, the rapid spread of injecting drug use and HIV throughout Russia and the Ukraine has been related to the globalisation of trade and transport links at the macro level, as well as patterns of migration and tourism. On a micro level, Rhodes described the observations of ethnographic research in an area of the Ukraine:

> The immediate physical environment … comprised open land, a meeting point, between state and private housing, where drug dealing took place often furtively and where drug injecting took place in the absence of running water via 'front-loading' the drug solution directly form a dealer's donor syringe or via the purchase of a ready-filled syringe. A lack of running water has consequences for risk reduction, as does the distribution of drug solutions via front-loading and ready-filled syringes. Each of these drug distribution practices were to some extent shaped by the immediate physical environment as well as by: the geographic separation of drug production and distribution sites; ease of drug

transport; ease of drug measurement; and time urgency when making the transaction from distribution to injection for fear of police intervention. (p. 90) [95]

Table 4 Rhodes' model of risk environment

	Micro environment	Macro environment
Physical environment		
Social environment		
Economic environment		
Policy environment		

Source: Rhodes, 2002, p. 89 [95]

Conclusions

The evidence base for determining the most cost-effective way to build or change the built environment to reduce drug problems is limited. However, the research that is available suggests that issues such as housing, spatial patterns of housing, industries and services, transport and the design and management of public spaces can have direct and indirect influences on drug use. It appears likely that housing, town planning and transport policies can affect the environment in a manner that promotes or prevents drug-use problems. What does this mean for policy and practice? Projects concerned with urban development provide some guidance. For example, UNICEF's Child Friendly Cities program[f] and UNESCO's Growing Up In Cities project[g] emphasise the need for communities to nurture child development, to advocate children's rights and to encourage child participation in urban planning. WHO's Healthy Cities Project[h] is based on a model of 'good governance', which includes broad political commitment, intersectoral planning, city-wide partnerships, community participation, and monitoring and evaluation. These approaches rely upon active participation by community groups as well as by health professionals to ensure child development and health and social outcomes are priorities in urban planning. A particular priority, as is clear from the research described in this chapter, is the need to ensure urban planning policies do not exacerbate existing social and health inequalities by segregating and isolating low-income people. [96] These are general principles, not specific to addressing drug problems, but likely to address problems.

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[g] www.unesco.org/most/guic/guicmain.htm
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CHAPTER 6: UNIVERSAL OR TARGETED APPROACHES

Public health interventions can be classified as universal, selected or indicated. Universal approaches are aimed at the whole population, selected interventions are aimed at individuals or groups at higher risk than the general population, and indicated interventions are aimed at those who are already experiencing a problem. These last two categories are targeted approaches, as they target specific groups.

As explained by Geoffrey Rose, there are generally more low-risk individuals in the population than high-risk individuals and a large number of low-risk individuals can contribute to more problem cases than a small number of high-risk individuals. Consequently, universal approaches will generally have a greater impact on the population incidence of a problem than targeted approaches because they benefit more individuals, albeit in a small way. Targeted interventions can have a larger impact per person, but they affect only a small number of people, so their population impact is less than the impact achieved with population approaches. [1 2] This phenomenon is known as the 'prevention paradox'.

This line of argument has been used to advocate universal prevention programs. For example, McCain and Mustard argued for universal child development programs in Canada, [3 4] and Barnett and colleagues argued for the provision of universal preschooling in the United States of America. [5] Their arguments are supported by evidence such as that provided by Hertzman and colleagues' mapping project. [6] This project involved mapping the results of developmental assessments of kindergarten children in Vancouver using the Early Development Instrument (EDI),[a] according to the children's neighbourhood of residence. The neighbourhoods were then characterised in terms of their socio-demographic status, developmental risk circumstances and access to services and facilities considered important for child development. Hertzman and colleagues reported:

> Although the highest risk of vulnerability is found in the poorest neighbourhoods of town, the largest number of children at risk is found more thinly spread across the middle class neighbourhoods that, taken as a whole, have a much larger number of young children than the poorest neighbourhoods. If the purpose of an early child development strategy is to increase resilience, decrease vulnerability and reduce social inequality, then a strategy to provide universal access to the conditions that support healthy child development is needed. This may mean addressing issues in different ways in different neighbourhoods, but it does *not* mean focusing exclusively on the highest risk areas. Such a strategy would miss most of the vulnerable children in Vancouver. (p. 34) [6]

As discussed in Chapter 2, countries that have adopted universal programs for child and youth development have demonstrably better outcomes in terms of child health, educational outcomes and behaviour. [7]

[a] The EDI is a group-level measure of five developmental domains of children: physical health and well-being, social competence, emotional maturity, language and cognitive development, communication skills and general knowledge.

Other researchers have supported targeted approaches. For example, Pollard, Hawkins and Arthur argued that preventive programs should focus on risk reduction in geographic areas or among groups at high risk. [8] They based this argument upon the results of a study of risk and protective factors for substance use, school outcomes and delinquency. This study found that (a) the number of risk factors were exponentially associated with increases in problem outcomes; (b) even high levels of protection did not eliminate problem behaviours; (c) problem behaviours were more related to the number of risk factors than to variation in the number of protective factors; and (d) the benefits of protective factors were significant only at high levels of risk. This was a cross-sectional, individual-level study and might not have included analysis of some important protective factors. However, it does provide good support for reducing risk as well as building protection, particularly among high-risk groups.

Rhodes presented a slightly different argument for targeted interventions. [9] After reviewing the research on risk factors for drug abuse, Rhodes noted that there were multiple risk factors for multiple problem behaviours and that these occurred within risk environments. He contended that targeting should be based upon problem behaviours (for example, truancy, getting suspended from school or criminal activity) and that the risk environment (for example, the group of drug-using peers) should be the site for intervention and analysis.

The risk approach has been criticised. For example, Jones noted that, with the growth of technologies to identify risk, there is now an ever-increasing list of risk factors, but a lack of critical thought, with the result that some interventions can actually worsen the situation for young people. [10] He described research, such as the research of Beck [11] and Furlong, [12] on how modern society has created a set of risks that make life uncertain for all young people, and how young people need to face these risks on a daily basis. He argued that risk science, which perceives young people as at-risk or vulnerable and responds with 'authoritarian measures to address popular anxieties about a dangerous youth' (p. 370), is often ignorant of the lived experience of young people — how they experience daily life and how drug use fits in their world. In a world in which drug use, even illicit drug use, has become normalised, it is not seen as a risky behaviour by many young people. Further, targeted programs risk stigmatising the target group. Jones' suggestion for researchers was to spend less time identifying risk factors and more time understanding the social construction of risk and context from the perspective of young people. For policy makers, he suggested including young people in policy debates.

Stockwell and colleagues analysed data from the Victorian Adolescent Health and Wellbeing study (cross-sectional, n=2439–2510, depending upon the item, ages 15–16 years) and the Australian Temperament Project longitudinal survey of youth (from ages 11–12 to 17–18, n=1064) to investigate the appropriateness of universal versus targeted approaches. [13] The results were somewhat mixed, perhaps reflecting the different population prevalence of the various behaviours under investigation, hence the different degree of social norms attached to those behaviours. However, the research team recommended a mixed approach, including universal approaches for those behaviours for which the majority of youth were at risk (for example, tobacco, alcohol and cannabis use) and targeted approaches for those behaviours that were concentrated in higher-risk groups (early initiators of drug use, frequent cannabis users and other illicit drug users).

In summary, research strongly supports universal approaches to health promotion and drug prevention. High-risk individuals can benefit indirectly from such programs via the improvement in social climate and directly if such interventions are accessible and appropriate for high-risk individuals. There are, however, also good reasons to support targeted approaches. Four such reasons are outlined below:

1. There can be problems with access or exposure to public health programs for some high-risk groups. For example, drug-dependent people face discrimination and negative attitudes from staff in mainstream health services, [14] and this can be a barrier to attending services (for example, support services for new mothers).
2. Prevention interventions addressing some specific risk behaviours that are practised by a small minority of the population (for example, unsafe injecting practices) can be inappropriate for universal implementation if raising awareness of the behaviour increases interest in experimenting with that behaviour.
3. When groups are disproportionately experiencing a range of negative outcomes as the result of structural disadvantage, there is a social justice argument for targeted efforts to address those inequities. Lloyd, for example, identified high-risk or vulnerable groups as including (but not restricted to) the homeless, children in foster care, young offenders and children from families with drug-dependent parents. [15]
4. Disadvantage tends to persist without intervention. For example, Vinson's longitudinal research on resilient and disadvantaged communities demonstrated that severely disadvantaged communities tend to remain so without intervention. [16]

To illustrate how sustained structural changes can be necessary to address the problems facing disadvantaged and high-risk groups, the situations of sole parents and Australian Aboriginal and Torres Strait Islander peoples are discussed below.

Sole parents

Sole parents are losing their minority status. Between 1976 and 2001, the percentage of sole-parent households increased from 12 per cent to 25 per cent. [17] However, being a sole parent is not always a permanent situation. Sole parents form new relationships, some of which result in children living with new step-parents (whether due to a de facto relationship or a marriage[b]). Around 50 per cent of children experienced living in a sole-parent family in the United States of America [18] and in New Zealand [19] by the age of 15.

This section describes research that documents that children of sole-parent families tend to have worse outcomes than other children. These differences can be explained by a range of factors such as economic disadvantage. As such, researchers and policy makers tend to conclude that it is not being in a sole-parent family *per se* that results in negative outcomes, but it is the problems associated with being in a sole-parent family that contribute to negative outcomes. This line of reasoning has resulted in failure by researchers and policy makers to advocate addressing the needs of this disadvantaged group.

[b] Problems with blended families will not be addressed here.

Drug use and other problems

Children of sole-parent families have been found to be at greater risk of multiple problems in relation to emotional, behavioural, social and academic development. [18 20-23] Lipman, Offord, Dooley and Boyle reviewed the literature on the effect of single-parent status on child emotional, behavioural, social and academic outcomes [22] and reported that, for those studies where effect sizes were given as odds ratios, the odds ranged from 1.1 to 4.8. That is, a child from a sole-parent family was up to 4.8 times more likely to have an undesirable outcome than a child from a two-parent family. With regard to drug use, higher rates of smoking, [24] heavy drinking [25] and substance abuse [26] have been found among children of sole parents compared with children living with two parents. For example, in Fegusson, Horwood and Lynskey's analysis of longitudinal data from a 15-year study of 935 children in New Zealand, children who were exposed to separation had odds of reporting substance abuse or dependence at age 15 years that were two to four times higher than children who had not experienced separation. [26] The size of the effect depended upon the age at which separation was experienced (Table 1).

Table 1: Rates of problem substance use/dependence at 15 years by parental separation and age periods during which separation was experienced

Age separation was experienced		
0–5 years		
	No separation (*N*=825)	6.9%
	Separation (*N*=110)	14.6%
	Odds ratio	2.29
	95% Confidence Interval	(1.27–4.15)
	p	<.003
5–10 years		
	No separation (*N*=806)	6.7%
	Separation (*N*=129)	14.7%
	Odds ratio	2.40
	95% Confidence Interval	(1.37–4.20)
	p	<.003
10–15 years		
	No separation (*N*=823)	6.1%
	Separation (*N*=112)	20.5%
	Odds ratio	4.00
	95% Confidence Interval	(2.32–6.85)
	p	<.001

Source: Adapted from Table 2 in Fergusson, Horwood and Lynskey, 1994, p. 1126. [26]

Reasons for problems

Lipman and colleagues reviewed the literature on sole parents and child outcomes and reported that the strength of the relationship between sole-parent families and negative child outcomes was lessened to some extent when analyses adjusted for lower family income and other indicators of socio-economic status such as parental education and employment. [22] They presented the results of analyses of the National Longitudinal Survey of Canadian Youth and found that:

> socioeconomic factors can explain only about a third to a half of the disparities associated with poverty and other socioeconomic factors. This suggests that other factors, such as, for example, the amount of time that parents can engage with their child in play or school-related activities, or the stress associated with separation or divorce, may also contribute to the differences in outcomes between children in single- and two-parent families. (p. 241)

Fergusson and colleagues described associations between parental separation and drug use and other problems as 'spurious':

> While the results suggested that children exposed to parental separation had increased risks of adolescent problems, much of this association appeared to be spurious and arose from confounding social and contextual factors that were present in the child's family before parental separation. (p. 1122) [26]

Summarising their research on the effects of parental separation on child psychopathology, Fergusson and Horwood described the multiple contributors to a range of problems experienced by children in sole-parent families:

> This research suggested that while children whose parents separated were at increased risks of later internalizing and externalizing problems, much of this increased risk was due to factors that were present prior to parental separation or divorce. These factors included socioeconomic disadvantage, elevated rates of adverse life events and higher levels of interparental conflict. When these pre-separation or divorce events were taken into account, most of the associations between parental separation/divorce and child adjustment were explained. Nonetheless, even following such control, there were small tendencies for children exposed to parental separation to be at somewhat increased risks of later conduct problems, mood disorder and substance abuse. (p. 291) [19]

Kelly reviewed the literature on divorce, marital conflict and children's adjustment. In relation to the increased use of alcohol, tobacco and cannabis, Kelly described a number of variables that contributed to this effect among children in sole-parent families:

> more reliance on friends and peer groups that use substances, less effective coping skills in divorced children, and impaired parental monitoring and parenting practices. Divorced parents also use more drugs and alcohol than do never-divorced parents. [21]

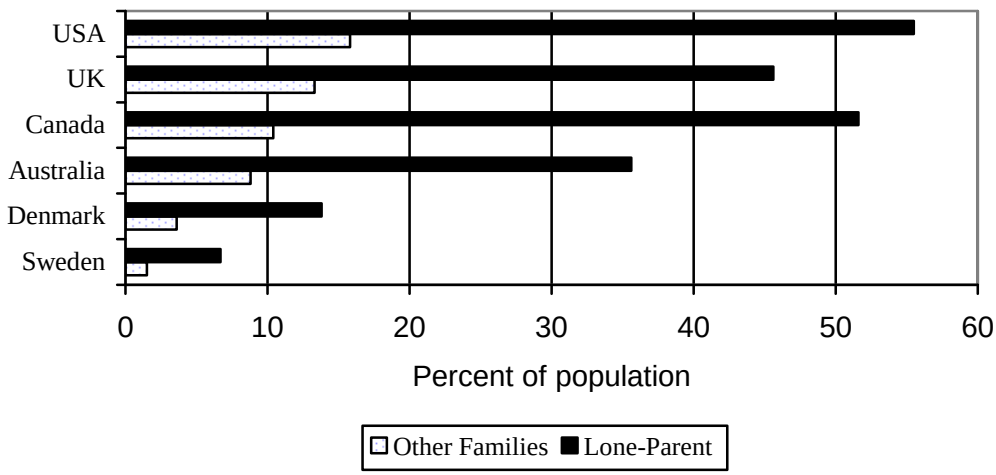
Kinnear reviewed the literature on the impacts of divorce on children and also described a range of contributing variables:

> The extensive research broadly concludes that, compared with children from intact families, children from separated families perform worse on a range of indicators of well-being and development, although, taken as a whole, the extent of the difference is not large. These studies are usually interpreted to mean that separation causes the problems, but in fact this is not necessarily the case. In their exhaustive review, Pryor and Rodgers conclude that the problems are due not to separation itself but to a complex interplay of factors before, during and after separation. Separation can be beneficial for children where the family is one of high conflict, especially if violence is present. Studies also show that the effects of

separation can be ameliorated if the situation is explained to children. A number of factors after separation can heavily influence the well-being of children, including continuing contact with both parents, continuing conflict between parents, reduced income, moving house and repartnering. [27]

Economic disadvantage was commonly cited as one reason for the negative outcomes of children from sole-parent families. Data on the economic situation of sole-parent families illustrate why this is such an issue. The Senate Community Affairs References Committee described sole-parent families and their children as one of the groups in Australia at highest risk of poverty. [28] The Australian Bureau of Statistics reported that, in 2001, over 350,000 families with children aged under 15 years had no employed resident parent. Almost two-thirds (64 per cent) of these families were single-parent families. [17] International data from the Luxembourg Income Study demonstrated that economic disadvantage is common for sole parents in Western countries, although the rates are much lower in Sweden and Denmark than in Australia, the United States of America, the United Kingdom and Canada (see figure below). This difference is likely to reflect the greater support given to parents in Scandinavian countries than in the other countries. [7]

Table 2: Child poverty in sole-parent and other families in Australia and five comparison countries, mid-1990s



Source: Luxembourg Income Study. [29] The poverty line is defined as 50 per cent of national median income after taxes and transfers.

The Senate Community Affairs References Committee described the key causes of poverty among women in general, particularly female sole parents, as including the following factors:

- the continuing inequality of wage levels, with women's wages still being generally lower than those of males
- the nature of the work that women are more inclined than males to do, which is more likely to be part-time or casual or precarious in nature
- the high costs of childcare
- the high costs of education
- lack of access to affordable housing
- insufficient income support for the needs of many sole-parent families
- the impact of 'shared-care' changes to the Family Tax Benefit, and

- lack of wealth accumulation during working life to support retirement incomes (pp. 211–212). [28]

While noting that the financial position of sole parents in Australia had improved in Australia since 1990, the Senate Committee identified a number of other factors that also influence the high rate of poverty of sole parents:

- labour market disadvantages of sole parents, including:
    - the difficulties of one parent combining work with parenting, including the lack of another parent to care for children and therefore a greater reliance on paid childcare
    - the gender and educational disadvantage of sole parents, and
    - discrimination against sole parents in the workforce
- their disadvantaged position after marriage separation. While the introduction of the Child Support Scheme has helped reduce the unequal situations of custodial and non-custodial parents following separation, problems still remain, including the higher costs of separated families
- the discrimination and prejudice that can be faced by sole parents, and
- inadequacy of income support payments (p. 226). [28]

Some structures that aim to support sole-parent families might be contributing to their problems. Gennetian and colleagues conducted a meta-analysis of random assignment studies of welfare and work policies targeting low-income, single-parent families. [30] They found that programs that required parents to work or participate in work-related activities or voluntary activities resulted in negative impacts on their adolescent children's academic outcomes. The authors noted that, while work provided some benefits to families, the net outcomes most likely depended upon factors such as how the program is implemented, the circumstances of individual families, the community context, institutional support and the type of employment in which parents were engaged. Outcomes were most likely to be negative for adolescents when their parents' working meant that they had to care for younger siblings. This study demonstrated that programs that simply place the onus on sole parents to work, without providing supports to do this in relation to childcare, can increase the problems of sole parents and worsen the outcomes for their children.

Implications

The evidence suggests that sole parents are under considerable stress raising children on their own. If they work, they can lose government support and have to juggle work commitments with childcare and supervision. Australian research has demonstrated that sole parents who work did not spend less time with their children than couple parents, which suggests that sole parents likely experience stress and fatigue as they cope with the demands of work and parenting. [31] If they do not work, sole parents face financial disadvantage. The issues for sole-parent families of socio-economic disadvantage and the demands of raising children while working need to be addressed. Phipps' review of social policies (summarised in Chapter 2) described how supportive policies in Norway have been associated with increased employment among sole parents and lower rates of poverty among children of sole parents relative to the less generous policies of the United States of America. [7]

Lipman and colleagues recommended investing in a range of programs, including universal programs, to support sole-parent families:

> programs that provide counselling and academic support to children following a separation or divorce, or programs such as Big Sisters or Big Brothers, which provide strong role models for children in sole-parent families. Investments in more universal programs, particularly sports and recreational programs, may also be more effective in reducing children's emotional behavioral problems. (p. 242) [22]

From their Children's Participation in Cultural and Leisure Activities Survey conducted in 2003, the Australian Bureau of Statistics reported that children of sole-parent families were almost twice (40 per cent compared with 26 per cent) as likely as children of couple families not to have participated in a range of cultural activities or organised sport outside school hours. [32] Such findings, in combination with recent research demonstrating the effectiveness of youth development programs and mentor programs, [33 34] indicate the systematic introduction of such programs should be considered. Such a systematic approach would be an improvement on the ad hoc, occasional and unregulated system currently available for youth programs.

Aboriginal and Torres Strait Islander Peoples

Drug use and other problems

The health and welfare of Australian Aboriginal and Torres Strait Islander peoples are known to be significantly poorer than those of other Australians. [35-42] Data from the Australian Bureau of Statistics that compare Aboriginal and Torres Strait Islander peoples with other Australians on a range of socio-economic and health indicators are presented in Table 3.

Table 3: Aboriginal and Torres Strait Islander (ATSI) peoples compared with other Australians

	ATSI peoples	Other Australians
In school at age 16	57%	84%
In post-secondary education at age 18–24	10%	24%
Adults with post-secondary qualifications	11%	30%
Employed	21%	42%
Median income (employed)	$365	$493
Own house	31%	70%
Sole-parent families	30%	15%
Imprisonment rate per 100,000	1663	139
Life expectancy at birth	Males: 57 Females: 62	Males: 75 Females:81

Source: Australian Bureau of Statistics, 2002 [43]

Further comparisons between outcomes for Aboriginal and Torres Strait Islander peoples and other Australians (listed below) relating to socio-economic status, health and crime were provided by the Productivity Commission, in its report on Indigenous disadvantage. [44]

- The life expectancy of people is around 20 years lower than that for the total Australian population.
- Nationally in 2002, Aboriginal and Torres Strait Islander students were half as likely to continue to Year 12 as other Australian students.
- Post-secondary attainment in 2001 was significantly lower among Aboriginal and Torres Strait Islander peoples, with 13 per cent of Aboriginal and Torres Strait Islander people having attained a level three certificate or above, compared to 34 per cent of other Australians.
- Unemployment in 2001 was 2.8 times higher for Aboriginal and Torres Strait Islander peoples than for other Australians. Participation in Community Development Employment Projects significantly reduced recorded unemployment rates among Aboriginal and Torres Strait Islander peoples.
- In 2001, both household and individual incomes were lower on average for Aboriginal and Torres Strait Islander peoples than for other Australians across all regions, and they were much lower in remote locations. In 2001, 32 per cent of Aboriginal and Torres Strait Islander households owned or were buying their own homes, compared with nearly 70 per cent of other Australian households.
- In 2001, the suicide rate for Aboriginal and Torres Strait Islander peoples (35.5 per 100 000) was considerably higher than the rate for other Australians (13.1 per 100 000) (based on data from Queensland, Western Australia, South Australia and the Northern Territory). Suicide death rates for the Aboriginal and Torres Strait Islander population were particularly high in the 25–34 year age group (67.2 per 100 000, compared with just under 20 per 100 000 in this age group for other Australians).
- During 1999–2001, homicides, as a proportion of total deaths, were ten times greater among Aboriginal and Torres Strait Islander peoples — 2.1 per cent compared with 0.2 per cent in the non-Aboriginal and Torres Strait Islander population.
- Hospital separation rates for assault in 2001–02 were higher for Aboriginal and Torres Strait Islander peoples (13.3 per 1000) than for other Australians (1.0 per 1000). The main category was assault by bodily force.
- On 30 June 2002, Aboriginal and Torres Strait Islander peoples were 15 times more likely than other Australians to be in prison.
- On 30 June 2002, Aboriginal and Torres Strait Islander juveniles were 19 times more likely to be detained than other Australian juveniles.

Aboriginal and Torres Strait Islander peoples also experience higher rates of drug use and drug-related problems, including tobacco, problem drinking (alcohol and kava), illicit drug use and volatile substance abuse. [45-50] For example, data from the National Drug Strategy 2001 household survey (Table 4) identified that, relative to other Australians, Aboriginal and Torres Strait Islander peoples were more likely to smoke; less likely to drink alcohol, but more likely to drink in a risky manner if they did drink (as per the National Health and Medical Research Council guidelines for risky drinking); and more likely to use cannabis and other illicit drugs. Injecting drug use is also more prevalent among Aboriginal and Torres Strait Islander peoples (3 per cent) than in the rest of the Australian population (2 per cent) and the sharing of injecting equipment has increased among Aboriginal and Torres Strait Islander peoples, with one study reporting that 43 per cent of Aboriginal and Torres Strait Islander injectors shared injecting equipment. [45] Problems with volatile substance abuse [50-52] and kava use [53 54] have also been experienced by Aboriginal and Torres Strait Islander communities. However, given the localised nature of these problems, prevalence rates are not readily available.

Table 4: Drug use for Aboriginal and Torres Islander (ATSI) peoples and other Australians aged 14 years and over, Australia, 2001 (per cent)

	ATSI peoples	Other Australians
Tobacco smoker	50	23
Risk of long-term alcohol-related harm		
• Abstainer	21	17
• Low risk	60	73
• Risky/high risk	20	10
Risk of short-term alcohol-related harm		
• Abstainer	21	17
• Low risk	31	48
• Risky/high risk	49	34
Use of illicit drugs in past 12 months		
• Use of any illicit drug	32	17
• Use of any illicit drug except cannabis	13	8
• Use of cannabis	27	13

Source: National Drug Strategy 2001 household survey [55]

Consistent with the patterns of higher rates of use, or problem use, peoples experience higher rates of drug-related problems. For example, the background paper to the National Drug Strategy Aboriginal and Torres Strait Islander Peoples' Complementary Action Plan 2003–2006 reported that: [45]

- Aboriginal males are over nine times more likely to be hospitalised for alcohol-related conditions than other Australian males; and Aboriginal females are almost 13 times more likely to be hospitalised for alcohol-related conditions than females in the Australian population.
- Eliminating alcohol consumption would add 5.9 more years of life expectancy to Aboriginal males and 3.4 more years to Aboriginal females.
- Tobacco-related disease is responsible for between 1.5 and 8 times more deaths in the Aboriginal and Torres Strait Islander community than in the non-Aboriginal and Torres Strait Islander community.

Reasons for problems

Why are drug problems more prevalent among Aboriginal and Torres Strait Islander populations than among other Australians? It is evident from the above discussion that Aboriginal and Torres Strait Islander peoples have high rates of risk factors for drug abuse, including rates of sole-parent families, school drop-out, unemployment and poverty. But why do Aboriginal and Torres Strait Islander peoples have these high-risk rates? As Brady has observed, attempts to explain patterns of drug use among Aboriginal and Torres Strait Islander peoples have drawn far more readily on structural explanations than have corresponding explanations for other population sub-groups. [56] Whereas most attempts to explain drug use among youth, for example, look to psychological or social psychological factors (for example, family dysfunction and peer groups), explanations for drug use and related problems among Aboriginal and Torres Strait Islander peoples routinely invoke the historical legacy of colonization and dispossession. This is hardly surprising, since the experience of colonization for Aboriginal and Torres Strait Islander peoples *was* different from

anything that has been experienced by other Australians. [57] Following is a description of historical and structural factors that are likely to have contributed to drug-use problems based on a range of sources. [48 57-60] It is noted that much of this explanation is based upon descriptive research. Longitudinal, multivariate studies of risk and protective factors to explain drug use among Aboriginal and Torres Strait Islander peoples were not found. The discussion below is far from a comprehensive account of the history and culture of Aboriginal and Torres Strait Islander peoples. The characteristics and experience of Aboriginal and Torres Strait Islander peoples before and after European settlement in Australia are much more diverse than the outline below can capture. The intention is to demonstrate that a range of historical and social-structural factors have contributed to drug problems among Aboriginal and Torres Strait Islander peoples.

Upon European settlement in Australia, Aboriginal and Torres Strait Islander peoples were genetically and culturally vulnerable. Genetically, Aboriginal and Torres Strait Islander peoples had no resistance to European diseases, so when diseases infected their communities, many Aboriginal and Torres Strait Islander people died. [59] This was perhaps the first major factor that weakened Aboriginal and Torres Strait Islander families and communities. Aboriginal and Torres Strait Islander culture has also contributed to vulnerability in the face of European settlement. For example, being nomadic, Aboriginal and Torres Strait Islander peoples tended to share available resources and consume food as soon as it was available rather than hoard it. This practice may have contributed to the sharing of alcohol and injecting equipment among Aboriginal and Torres Strait Islander peoples as well as the binge use of alcohol. The nomadic lifestyle also meant that Aboriginal and Torres Strait Islander peoples did not build large cities. Consequently, Europeans regarded Aboriginal and Torres Strait Islander peoples as uncivilised, with no right to the land. Aboriginal and Torres Strait Islander peoples were not treated with respect or considered part of the new community being established by Europeans. Furthermore, being scattered across multiple small communities over a large land mass meant that Aboriginal and Torres Strait Islander peoples did not present a unified force to 'fight' or have equal power against European settlers.

European settlement damaged Aboriginal and Torres Strait Islander communities and families. [58] Historically, the brutality and trauma entailed in the European usurpation of the lands of Aboriginal and Torres Strait Islander peoples was followed by successive policies of 'protection' and 'assimilation', one objective of which was to reshape Aboriginal and Torres Strait Islander societies in the image of the dominant society, with all the undermining of Aboriginal and Torres Strait Islander cultural practices, languages and so on that this entailed. [57] At the same time, Indigenous people were marginalized geographically and socially in missions or simply beyond the boundaries of towns, thereby reducing their access to opportunities in the dominant society. In missions, communities that did not belong together were forced to live together, which reduced social cohesion. People lost their sense of connection to the land, felt they did not belong to the place in which they lived, and lost their sense of self-determination. Traditional languages and cultural practices were banned, so traditional roles and lifestyles were lost. This contributed to a loss of meaning in life, boredom and a loss of traditional social norms to influence behaviour. To varying degrees, elders lost their social status. Probably the most devastating facet of these policies was the practice of removing Aboriginal or part-Aboriginal children from their families, giving rise to the 'stolen generations'. Children were taken from parents, either kidnapped for child labour or removed from families so they could be taught European values. [42 61] Today

many still live with the memory of forced removal from their families. Data from the Western Australian Aboriginal Child Health Survey indicated that 41 per cent of Aboriginal children living in Western Australia live in a household affected by separation or relocation. The disruption to family and community has resulted in intergenerational trauma and a loss of parenting skills [62] and community attachments. The *Bringing Them Home* report noted that children continue to be taken from their parents because of the intergenerational damage:

> Because of their behavioural problems there is a significantly increased risk that these second generation children will in turn be removed from their families or will have their children removed.
>
> > ... as children who grew up under the stolen generations, the fact that we didn't often have our own parents, that we in fact as children when we were raised were not parented by other people and as adults and as women we go on to have children and that those skills and experiences that our extended family would have instilled in us are not there — that puts us at great risk of having our children removed under the current policies and practices that exist today (Joanne Selfe, NSW Aboriginal Women's Legal Resource Centre, evidence 739). [61]

Furthermore, Cunneen has argued that Aboriginal and Torres Strait Islander children are still being separated via the criminal justice system:

> The high levels of criminalisation and subsequent incarceration of Indigenous young people in Australia effectively amounts to a new practice of forced separation of Aboriginal and Torres Strait Islander children and young people from their families. (p. 43) [63]

Having damaged Aboriginal and Torres Strait Islander peoples and their communities, European settlers introduced tobacco and alcohol to Aboriginal and Torres Strait Islander peoples as a form of payment and to procure sexual favours. Then prohibitions were introduced, so the status of alcohol increased to be regarded as a race/class privilege. [60]

From the 1970s, many of these practices and policies were abandoned, as discriminatory legislation was dismantled (including, importantly, a hitherto longstanding prohibition on Aboriginal and Torres Strait Islander peoples' access to alcohol), and policies introduced that ostensibly fostered Aboriginal and Torres Strait Islander peoples' 'self-determination'. Unfortunately, at the same time employment opportunities for Aboriginal and Torres Strait Islander peoples in rural and remote areas deteriorated, largely as a result of the introduction of equal pay for Aboriginal stockmen in the pastoral industry, and Aboriginal people became increasingly reliant on the welfare system. Noel Pearson, an influential Aboriginal thinker, has argued that government policies moved Aboriginal and Torres Strait Islander peoples out of real economies, in which 'if you don't work, you don't get paid' (p. 11) and into passive welfare dependency and that this is at the heart of the social problems, particularly drug problems, in Aboriginal and Torres Strait Islander communities. [64] The 'passive welfare' system, he argued, has sapped the creativity and energies of Aboriginal and Torres Strait Islander peoples. [64-66]

The history of European colonisation of Australia has resulted in feelings of inferiority, powerlessness and hopelessness among Aboriginal and Torres Strait Islander peoples, a loss of positive role models within Aboriginal and Torres Strait Islander communities and a loss of family and community strengths. These factors have contributed to the accumulation of risk factors for problem outcomes, including low educational attainment, high rates of unemployment and socio-economic disadvantage, and physical and mental health problems including self-harm and suicide. The result has been a highly stressed community. In 2002, Aboriginal and Torres Strait Islander peoples were almost one and a half times more likely to experience at least one life stressor in the previous 12 months than other Australians (83 per cent compared with 57 per cent respectively). [42] The most frequently reported stressors were the death of a family member or close friend, serious illness or disability, and inability to get a job. For Aboriginal and Torres Strait Islander peoples living in remote areas, the most frequently reported stressors, after death of a family member or close friend, were overcrowding at home and alcohol and drug-related problems. The resulting problems with violence, drug abuse and crime have added to the problems of Aboriginal and Torres Strait Islander communities, leaving Aboriginal and Torres Strait Islander peoples feeling hopeless, angry, traumatised and ashamed.

Numerous other factors continue to contribute to the health and social problems among Aboriginal and Torres Strait Islander peoples. For example, Aboriginal and Torres Strait Islander peoples are more likely than other Australians to live in remote communities, with less access to important resources (recreation, health services, education and employment). In addition to the problems outlined above, Aboriginal and Torres Strait Islander populations experience racism and social exclusion. Many Australians lack an understanding of the reasons for social problems among the Aboriginal and Torres Strait Islander population and blame Aboriginal and Torres Strait Islander peoples for the existing problems. [67 68]

Phillips described how a series of failed interventions, which have not addressed the fundamental causes of the problems, have contributed to a sense of hopelessness among Aboriginal and Torres Strait Islander peoples and the wider community. [60] Brady traced the history of a number of well-meaning but unhelpful responses to alcohol problems in Aboriginal and Torres Strait Islander communities, for example, a tendency to play down alcohol problems among Aboriginal communities during the 1970s, and inaction or failure to promote 'best practice' due to a bureaucratic fear of making cultural blunders. [69] Brady and D'Abbs have described multiple structural problems in addressing Aboriginal and Torres Strait Islander drug problems, such as the lack of field staff to implement local programs. [52 69] In short, many of the factors that have contributed to drug problems among Aboriginal and Torres Strait Islander communities have historical origins that have damaged families and communities in a compounding fashion across multiple generations. It has been argued that subsequent attempts to address problems have often been ineffective, exacerbated problems or created new problems.

Implications

The Ministerial Council on Drug Strategy has developed a plan for addressing drug problems among Aboriginal and Torres Strait Islander peoples. [45] This plan incorporates the historical context of drug use among Aboriginal and Torres Strait Islander peoples and proposes a holistic approach that incorporates involvement and control by

Aboriginal and Torres Strait Islander peoples at the local level — a commendable proposal. On the basis of research presented in this report, we emphasise the need for an approach that builds strengths, promotes self-help and self-determination, achieves structural changes, is holistic, compassionate, realistic and adequately funded.

In Chapter 1, we emphasised the value of building resilience rather than focusing solely on addressing specific problems such as drug use, suicide, crime, unemployment and domestic violence. Within Aboriginal and Torres Strait Islander communities, a clear need exists to build feelings of hope, family strength and community capital. Publicising and promoting the successes and strengths of Aboriginal and Torres Strait Islander people and communities rather than focusing on the problems can help to build a sense of hope among Aboriginal and Torres Strait Islander peoples and address negative stereotypes held by the broader community. Approaches need to foster self-help and self-determination. However, families and communities that are already disadvantaged and damaged cannot be expected to improve their situation on their own. Non-Aboriginal and Torres Strait Islander people need to give support (material, intellectual and social), but not perpetuate disempowerment by taking control. Phillips suggested a mix of personal and community responsibility, where community members stop blaming others, but heal themselves first, then help others to heal. [60] Pearson's has argued for a new approach to structural change, by seeking to build partnerships involving Aboriginal organisations, government agencies and private sector bodies, thereby fostering 'social entrepeneurs' and gaining for Aboriginal and Torres Strait Islander peoples a place in a 'real economy'. [64-66] Funding a multitude of interventions will not be effective. Aboriginal and Torres Strait Islander communities have a long history of failed interventions that have contributed to a sense of hopelessness. [60 69] Rather, structural changes are needed to change the fundamental conditions that are contributing to drug problems as well as a multitude of other social problems including crime. After his investigation into deaths due to petrol sniffing, the South Australian Coroner concluded that specific sniffing interventions are needed, but: 'All these strategies must be accompanied by strategies to address socio-economic issues such as poverty, hunger, health, education and employment' (paragraph 10.107). [70]

While the range of risk factors to be addressed necessitates a whole-of-government, holistic approach, each government department needs to consider how it can be more effective in addressing risk factors or problems among Aboriginal and Torres Strait Islander peoples. For example, departments responsible for community services, welfare, [71] education, [72] criminal justice [48] and housing [73] all need to be better coordinated and to improve outcomes in their areas of responsibility. [44 74] Improving the system and achieving equity for Aboriginal and Torres Strait Islander peoples will require a substantial investment of funds. Government spending on the health of Aboriginal and Torres Strait Islander peoples is not commensurate with need. [75] Similarly, the existing inequity in drug-related problems experienced by Aboriginal and Torres Strait Islander peoples requires attention. Even with substantial investment, it is important to be realistic. Change will take time and realistic expectations of what individuals and communities can achieve are needed. [76] A failure to meet unrealistic goals will only add to feelings of hopelessness.

Finally and (perhaps) most importantly, empathy and compassion for Aboriginal and Torres Strait Islander peoples in Australia are needed. Pedersen and colleagues suggested that education regarding the history of Aboriginal and Torres Strait Islander Australians following European colonisation, as well as factual information about the current

situation of Aboriginal and Torres Strait Islander peoples, might assist this process. [77] This could include information on the fact that per-capita expenditure on Aboriginal and Torres Strait Islander Australians (once adjusted to reflect their under-utilisation of other programs) is not significantly higher than expenditure on other Australians. [78] As discussed by Maton (Chapter 3), [79] cultural change is difficult, but possible.

Conclusions

In summary, research supports universal programs to promote healthy child and youth development and prevent problematic drug use and related problems. However, for those groups in which disadvantage has become entrenched and who experience an unequal distribution of problems, some targeted effort is recommended. There are sound reasons for this recommendation. Firstly, addressing inequity is consistent with the principle of social justice, a principle to which Australia is committed. [c] Secondly, drug dependence and related problems such as drug-related crime and lung cancer are costly (both economically and socially) [80] and these costs will not diminish unless the causes of problematic drug use are addressed. Thirdly, once problems are entrenched, it takes effort to reverse the trend of intergenerational disadvantage and drug abuse.

[c] See the Human Rights and Equal Opportunity Commission website www.hreoc.gov.au

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CHAPTER 7: DISCUSSION

OVERVIEW OF FINDINGS

Despite increased wealth and improved physical health, drug use and other psychosocial problems have increased in Australia and other western countries in the past half-century. These trends have co-occurred with social changes that influence the environment of children and youth, such as increases in working mothers, increases in sole parents, increased job insecurity and working hours, increasing gaps between rich and poor, and cultural changes (for example, rise in individualism, secularism, materialism). The co-occurrence of these trends suggested the need to investigate how the social environment is influencing drug abuse, and what mechanisms exist for shaping the social environment in a manner that will decrease drug abuse.

Drawing upon research relating to human development and the social determinants of health, we have described multiple environmental factors that might contribute to problematic drug use (for example, Western cultural attitudes, income inequality, social capital and housing quality). Suggestions for addressing the social determinants of health and well-being and for reducing social problems such as crime at a structural level (for example, child and family policies, urban planning) were outlined when they appeared useful for also reducing risk factors for drug abuse. The research included in this report highlighted how complex the development and maintenance of drug-use problems are, and tended to be more indicative than conclusive. However, some themes arose that allow conclusions to be formulated.

While evidence-based drug prevention and treatment interventions can be beneficial, there will never be enough to prevent or treat every drug problem. Further, such interventions do not necessarily address the more distal contributors to drug problems as outlined in ecological models of health. An approach that focuses on supporting the healthy development of infants, children and young people; supporting families in their role of raising children; and creating 'healthy' communities is likely to have benefits for the prevention of drug problems and other psychosocial problems.

For example, the family is critical to healthy development and to the prevention of problematic drug use. Parents influence social skills, school readiness, peer selection and other factors that contribute to drug abuse. While research has clearly demonstrated the role of parents in drug abuse, interventions have generally centred on parenting programs. This is despite knowledge that such programs are least likely to be attended by the parents who most need them, and the high cost of such programs. The factors that contribute to parenting quality are rarely considered. Yet, with more parents working, working longer hours, raising children as sole parents, they are less able to provide the supervision and care needed to raise children. While Australia has experienced an increase in childcare provision, it has not been sufficient to meet demand, [1] and structures to assist in the supervision of adolescents (such as universally available youth development programs) [2] are lacking. Sole parents who work are additionally disadvantaged as they try to juggle work with childcare. Youth development programs and mentor programs [3-5] can be particularly useful for children in sole-parent families. For parents who have mental health and/or drug problems, and parents who have

experienced poor parenting themselves (as has occurred among a significant proportion of Aboriginal and Torres Strait Islander peoples), intergenerational transmission of problems due to poor parenting are likely. In these cases, universal programs as described above will assist, but intensive programs to break the cycle of disadvantage are also needed.

Low socio-economic status families raising children in disadvantaged areas are doubly disadvantaged, particularly in user-pay systems. Not only is the family less able to purchase resources and services to assist child development, the children are systematically exposed to environments that contribute to drug use and other problems. These are characterised by norms of school drop-out, unemployment, criminal involvement and drug use, illicit drug markets, physical disorder and low community morale. Inequities in the distribution of drug-related problems result, and these are unlikely to change without changes to the structural contributors to disadvantage. Thus, rather than a medley of drug interventions, the impacts of societal structures (institutions, systems, policies) on individuals and their social environment need to be assessed for their contribution to human development in general and drug use in particular. For example, the school system and the corrections system could be focal points for whole-of-government approaches to assist in developing resilience and preventing drug use. The community needs to assist parents who are increasingly time-poor in raising children, for example, via family-friendly work policies, high-quality and universally available childcare, and coordinated community resources and programs for adolescents. Targeted efforts to address structural contributors to existing inequities are also needed.

Further, cultural trends that have resulted in feelings of meaninglessness and hopelessness along with a lack of compassion for, and marginalisation of, people who are disadvantaged and experiencing problems are likely to have contributed to the development and maintenance of drug abuse and other problems. There is no simple solution to the negative impacts of Western culture, but community leaders have a role, as do schools, in the development of values.

IMPLICATIONS

In light of the research described in this report, a number of implications for government decision makers are outlined below. As noted in Chapter 1, this report does not provide a blueprint for action. While the evidence in this area is far from complete, sufficient consistencies across studies indicate the need for governments to:

- understand the complexity of drug use
- invest in human development
- adopt holistic approaches
- promote a cultural shift
- address inequities in problematic drug use
- monitor problems, policies and programs.

These recommendations are consistent with our previous report on structural determinants of drug use, [6] and the drugs field has been moving in the direction suggested by these conclusions. [7] We are on the right track, but still have a long way to go before we have created an environment that is not conducive to drug problems and that helps people with drug problems as they arise.

Each of the implications is briefly discussed below.

Understand the complexity of drug use

Drug-use behaviours are the result of a complex interplay of individual and environmental factors across the life course. Consequently, a developmental perspective is needed; focusing on a single period (such as the age of initiation of drug use) will be of limited benefit. Further, the multiple risk factors for drug abuse across multiple domains (for example, individual, family, community) all need to be addressed. Risk factors and negative outcomes perpetuate one another such that addressing single risk factors, or even single domains, will have little impact when other risk factors continue to be influential. In addition, many of the risk and protective factors for drug abuse also affect other psychosocial problems (such as mental health problems, delinquency and school failure), so increased efficiency may result from combining drug prevention initiatives with crime prevention, suicide prevention, bullying prevention and so on. This recommendation is consistent with calls to draw together risk factor research into a broader framework within public health. [8]

The complexity of drug abuse aetiology and interventions presents a challenge, not only for policy and programs, but also for research and evaluation. Research methods need to be able to incorporate area-level factors that influence drug use [9-13] and address bi-directional relationships that can change with individual (for example, age and gender), environmental (for example, the policy environment) and historical contexts.

Invest in human development

Governments do not need to decide between investing in drug risk-reduction programs and investing in youth development and adult well-being. Both are needed. Investments in human development need to incorporate the following:

- structures for child and youth development. Supports need to be in place to assist working parents in the shared responsibility of raising in children. These supports are particularly needed for socio-economically disadvantaged parents, sole parents and Aboriginal and Torres Strait Islander parents. For example, few programs are currently provided for adolescents outside school hours, yet evidence indicates that youth development programs can reduce drug use and crime and improve educational outcomes. [2 14] The simple provision of recreational activities and resources is not sufficient. 'Full-service schools', developed in the United States of America, provide one model for extending existing infrastructure towards this end. Mentor programs are also effective in providing the adult relationship that can be lacking in many children's lives, and in reducing problem behaviours. [4 5] Australia is still a long way behind Scandinavia in supporting families to raise children. For example, an international review of the working conditions necessary to care for children and other family members, undertaken by the Project on Global Working Families (based at Harvard School of Public Health), suggested many ways in which families could be better supported. [15] For example, they reported that Australia and the United States of America were the only two industrialised countries that did not provide paid maternity or parental leave for women and Australia was among the countries that spent the lowest percentage of gross domestic product (0.1 per cent) on pre-primary education. This figure compared with the 0.8 per cent spent by Denmark, Hungary and Norway.

- structures to assist with transition periods. Individuals are generally more receptive to assistance during periods of transition. For example, young people making the transition from high school to higher education or to the workforce; people who have experienced job loss or divorce; and offenders who are moving from prison to the community require support and opportunities to facilitate successful transition. For example, with the high recidivism rates of offenders (particularly Aboriginal and Torres Strait Islander peoples), [16] assistance with establishing a new life after prison appears essential.
- early interventions and safety nets across the life course are needed for those who begin problematic trajectories. [17] Intervention at an earlier point is associated with better outcomes than interventions after problem behaviours are entrenched. Examples include systems of early identification and intervention with school children exhibiting problem behaviours, diversion programs for drug offenders, and re-entry programs and alternatives for school drop-outs.
- greater assistance (rather than marginalisation and punishment) for those who are not managing. For example:

    - Interventions other than suspension or expulsion are needed for children in school who are acting out, for example, bullying or using drugs.
    - Case management and programs including drug-treatment programs, mental health programs, vocational assistance, housing assistance, and so on for people in the juvenile and adult prison system.

Keating and Hertzman noted that there is a failure of governments to invest in core infrastructure to support human development. [18] Such investments are necessary and, as discussed in Chapter 2, they are cost-effective in reducing multiple problems, including drug abuse.

Holistic approach

Holistic approaches for individuals and across systems are needed. In relation to prevention, the focus of the system needs to be on building the resilience of individuals, families and communities — not just on preventing isolated problems. For drug-dependent people and their families, a holistic approach to drug treatment is needed, to address the multiple health, family, social, socio-economic and other problems faced by them. Mainstream services also need to offer assistance to drug-dependent people, who often tend to experience marginalisation and stigmatisation by these agencies.

Researchers have identified how government departments, programs and services are arranged as vertical silos with inadequate coordination between them. [18 19] Whole-of-government systems are needed for the provision of coordinated services and more cost-effective planning and provision of prevention and treatment. Examples of mechanisms for achieving this include full-service schools (as developed in the United States of America), Community Drug Action Teams [20] and drug diversion programs that include case management and treatment and support services. [21-23]

The drugs field in Australia has recognised the need for a whole-of-government approach, as reflected in, for example, the National Drug Strategy. [24] These approaches have not been without difficulty and governments are still on a learning curve with such approaches. For example, in an evaluation of the National Drug Strategy (1993 to 1997), Single and Rohl noted the need to enhance the involvement and effectiveness of law

enforcement in the strategy [25] and subsequent research has noted challenges for the law enforcement sector to embrace harm minimisation. [26]

One way to achieve a whole-of-government approach is for the drugs field to work with government departments concerned with relevant, but non-drug-specific, issues such as welfare, [27] families, [28] homelessness, [29] crime [17] and suicide. [30] Such an approach could enable pooling of resources and collaborative work so that larger, longer-term projects could be implemented, rather than piecemeal projects that duplicate effort and are too small and short-term to be effective.

One mechanism for enabling a coordinated approach across government departments is to establish a human-development directorate with a brief and the authority to plan and coordinate child and youth development, problem prevention, and treatment services across the government system. This directorate would consider the broad range of social determinants of health and well-being (including drug use and other problem outcomes discussed in this report) to ensure positive outcomes for the population.

Cultural shift

A cultural shift is needed from a society dominated by individualism, materialism, economism and discrimination to a more caring and inclusive society focused on well-being rather than wealth. Research amply demonstrates that economic growth has not resulted in increased well-being. [31] Further, increased wealth has been unevenly distributed and disadvantage remains for many sections of society. There is no simple way to change the negative aspects of a dominant culture. Maton provided a useful framework for cultural transformation, which included capacity-building, group empowerment, relational community building and 'culture-challenge' (see Chapter 3). Changing the dominant culture requires leadership from politicians, academics and others and can be promoted by the education system (for example, programs such as 'Roots of empathy'[a] and school climate programs), [32 33] social movements and advocacy groups (including drug user groups). Cultural change cannot be forced on a population, but it can be facilitated.

Inequities in drug problems

Existing inequalities in the distribution of drug problems were identified in Chapters 3 and 4 and these inequities need to be addressed: This means:

- addressing each level of the causal chain from the causes of disadvantage (for example, the conditions that contribute to disadvantage at the individual and community levels), to the mediators of disadvantage (for example, lower access to recreational, educational, vocational, health, support and other resources among disadvantaged groups), to the impacts of disadvantage (for example, drug dependence among disadvantaged groups).
- ensuring policies do not exacerbate disadvantage. [34] For example, in Chapter 5, research suggesting that the concentration of public housing exacerbated the disadvantage faced by individuals and families living in housing estates.
- affirmative action to address inequity for disadvantaged groups such as sole-parent families and Aboriginal and Torres Strait Islander peoples (discussed in Chapter 6).

[a] See www.rootsofempathy.org

Monitoring and evaluation

The need for monitoring of health and well-being and for evaluation of policies and programs is generally accepted. Monitoring is necessary to identify emerging problems, evaluation will ensure evidence-based practice. These statements do not need to be argued here. Of particular import for this report, however, are the notions of (a) monitoring well-being, and (b) monitoring policies and programs.

Diener and Seligman argued that we currently have good indicators of economic outcomes and regular reporting of those indicators, but that economic indicators are not a good predictor of well-being. [31] For example, international data on rising national wealth, unchanged life satisfaction, decreasing social connectedness and increasing depression and anxiety were presented to demonstrate the poor relationship between wealth and well-being. The researchers argued that periodic and systematic assessment of well-being is needed to assist policy makers to make decisions that will improve the well-being of the population, and to increase the focus on well-being. Monitoring of well-being is currently underway with, for example, the European Union's Eurobarometer[b] and the World Values Survey.[c] Since 1996, the United States of America has produced annual reports on trends in child and youth well-being. [35] The Australian Institute of Health and Welfare has been monitoring the health, development and well-being of Australia's children since 1996 and has worked consultatively to develop a broader set of indicators of child development. [36] However, national data on the mental health and well-being of children, youth and adults are not collected in Australia on a regular basis. As argued by Diener and Seligman, population well-being is not only a desirable outcome in itself, but it contributes to other desirable outcomes such as increased productivity and better social relationships. Monitoring well-being is one way to keep it on the agenda and to track changes in well-being.

The second area of particular relevance to this report concerns the monitoring of policies and programs — both drug-specific policies and those policies that are not drug-specific but have an impact on drug-use outcomes. While evaluation of specific interventions is a relatively straightforward process, particularly when study participants can be randomly allocated to receiving the intervention or to a comparison group, evaluation of policies and systems is more complex. People can rarely be assigned to intervention or comparison groups, as whole populations are generally exposed to the policy. The number of possible confounding variables is immense — any change in outcomes could be due to a myriad of factors. Plus, many impacts of a policy might be unintentional and not measured. However, evaluation of government policies and programs is essential for good decision making.

Sibthorpe and Dixon discussed the inappropriateness of experimental methods for evaluating the impacts of changes to social structures and processes on communities.[37] They argued that an 'evaluation through monitoring and research' approach is a more effective and efficient way of evaluating broad-based health policies and programs at a community level. They defined the approach as 'evaluation through the systematic and rigorous use of a range of research methods to understand the (causal) links between structural reforms and shifts in health indicators' (p. 291). The approach includes

[b] See http://europa.eu.int/comm/public_opinion/index_en.htm
[c] See http://www.worldvaluessurvey.org/

investment in developing and measuring a robust set of indicators of the social determinants of health and health outcomes and the triangulation of epidemiological, sociological, anthropological, economic and policy analysis' (p. 290). [37] Sibthorpe and Dixon outlined a list of 13 reasons indicating that their approach is an effective and efficient means of evaluating broad-based health interventions. For example, the approach is conducive to considering the cross-portfolio impacts (health, education, crime) of interventions, and information is readily available for a multitude of evaluation questions at any time and place.

Evaluations of policies have been described or referenced throughout this report to demonstrate the impacts of different policy options. For example, Phipps' five-country comparison of child and family policies (Chapter 2) provides an excellent description and analysis of the impacts of different types of social policies on child outcomes. [38] The United Nations Children's Fund Innocenti Research Centre's analysis of child poverty in 23 wealthy member nations of the Organisation for Economic Cooperation and Development demonstrated how child poverty rates were a matter of policy choice. [39] Blaiklock and colleagues monitored the impacts of economic and social policy changes on children in New Zealand. [40] Their analysis of existing data and description of policy changes identified that the rapid liberalisation of the New Zealand economy (privatisation of state-owned enterprises, deregulation of labour market, stricter tests on welfare provision, introduction of tertiary education fees) had been detrimental to the well-being of children in New Zealand, and widened inequalities between ethnic and income groups. Their results demonstrated the importance of having effective mechanisms to monitor, protect and promote the interests of children. Policy studies such as these are essential for informing government of the outcomes of policy decisions.

Health impact assessments have become increasingly used as means for assessing the health impacts of policies or programs, particularly where health outcomes are not the main focus of the program, for example, in the case of transport policy or education policy. They provide a means of assessing the impact of non-drug-specific policies on drug-use outcomes. [41-44] In 1999, a meeting was organised by the European Centre for Health Policy, the World Health Organization and the Nordic School of Public Health, with the collaboration of the European Commission and participants from across Europe, to explore a consensus on health impact assessments. The meeting defined health impact assessment as follows:

> Health Impact Assessment is a combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population. (p. 4) [45]

The meeting participants determined that, in addition to promoting the health of the population, four values are particularly important for health impact assessments: democracy, equity, sustainable development and the ethical use of evidence:

- **democracy**, emphasising the right of people to participate in a transparent process for the formulation, implementation and evaluation of policies that affect their life, both directly and through the elected political decision makers
- **equity**, emphasising that HIA is not only interested in the aggregate impact of the assessed policy on the health of a population but also on the distribution

of the impact within the population, in terms of gender, age, ethnic background and socio-economic status

- **sustainable development**, emphasising that both short-term and long-term as well as more and less direct impacts are taken into consideration, and
- **ethical use of evidence**, emphasising that the use of quantitative and qualitative evidence has to be rigorous, and based on different scientific disciplines and methodologies to get as comprehensive assessment as possible of the expected impacts. (p. 4) [45]

The steps and methods of health impact assessments, as illustrated by the International Health Impact Assessment Consortium, are presented in Figure 1.

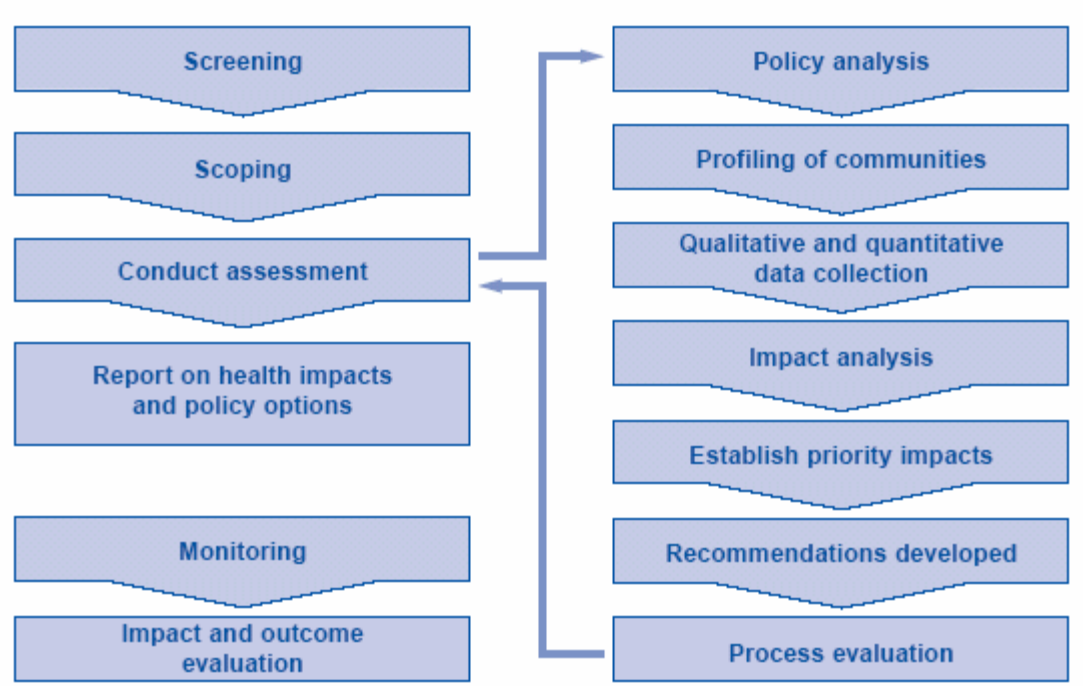

Figure 1: Procedures and methods of health impact assessments

Source: The International Health Impact Assessment Consortium [44]

In summary, a range of methods can be used to assess the impacts of policies and programs on health and drug outcomes. Strict adherence to best practice evaluation designs is neither feasible nor appropriate when assessing the impacts of policies. However, such assessments are essential for informing future policy.

BARRIERS TO IMPLEMENTING EVIDENCE-BASED POLICIES

While the research on the social determinants of health, crime and drug use is incomplete, sufficient evidence exists to address these social determinants. For example, research indicates the need for universal programs to support child and youth development [46 47] and the problems of relying upon economic growth for population health and well-being. [31] Yet, the gap between practice and research has repeatedly been identified in the area of public health, [37 48-52] crime prevention [53] and drug issues. [54-60] Sibthorpe and Dixon argued that the reasons for inaction and disappointing progress in relation to the social determinants of health fall into two broad categories:

1. barriers to policy action
2. limited impact of actions that have been taken. [37]

They described three major barriers to policy action: policy inertia, different world views of researchers and policy makers, and a lack of appropriate evidence. Policy inertia refers to government inability or unwillingness to respond to evidence, generally resulting from assessments that the policy options are too financially or politically costly or that they would require a revolution in administrative arrangements. On the different world views of policy makers and researchers, they noted that policy makers want certainty and political acceptability. Research on the social determinants of health generally provides neither of these, tending to be context-dependent and not necessarily politically palatable. On the lack of evidence, they noted the problems with scientific method applied to the social determinants of health. Their recommendations for using monitoring and research in order to gather appropriate evidence for government action on the structural determinants of health are outlined above.

Sibthorpe and Dixon then outlined reasons for the limited impact on health of actions that have been trialled. These included: (a) poor policy implementation rather than lack of policy; (b) weaknesses in evaluation design so that outcomes were not detected; and (c) inadequate conceptualisation of risk factors and risk conditions (or social environment) leading to poor program design. That is:

> If lifestyle is reduced to individual risk factors, then the resulting interventions will not be designed to impact on the social environment that gives rise to … excess alcohol consumption and violent behaviour. In other words, if more effective interventions are desired, then greater theoretical sophistication is required in the area of 'status, opportunity, power, and authority'. (p. 284) [37]

Further, there is a tendency for governments to implement interventions that can be easily measured and generate positive media coverage. These interventions are rarely based upon a solid theoretical base.

Nutbeam presented an argument similar to Sibthorpe and Dixon's regarding inaction resulting in part from uncertainty of method or outcome:

> The differences in opportunity, access and resources, and their impact on health status are complex, difficult to explain and rarely suggest simple actions to rectify. This complexity has often led to 'analysis paralysis' for academics and policy-makers, leading to continuous examination and debate about the nature of the problem, but little effective action to tackle it. (p. 137) [51]

Nutbeam also emphasised the political nature of policy making — evidence is more likely to be used if it fits with the vision of the government in power, it clearly indicates what action needs to be taken, and there is a capacity to act:

> Policy-making is an inherently 'political' process, and the timing of decisions is usually dictated as much by political considerations as the state of the evidence. In this context, policy is most likely to be evidence-based if scientifically plausible evidence is available and accessible at the time it is needed, the evidence fits with the political vision of the government of the day (or can be made to fit), the evidence points to actions for which powers and resources are (or could be)

available, and the systems, structures and capacity for action exist (practical to implement). (p. 138) [51]

Few areas are more 'political' than the drugs field. Policies relating to drug issues are heavily influenced by community opinion, which is often poorly informed and value-laden. The general public tends to have a simplistic notion of the reasons for drug abuse, with an over-emphasis on individual choice and unrealistic views on drug prevention (centring on education and scare tactics) and treatment (lacking an understanding of the chronic nature of drug dependence). For example, community surveys relating to drug issues have identified that Australians view education and law enforcement as the most effective public policies for dealing with illicit drug use. [61] While education and law enforcement have value, they have no impact upon the family and social conditions that contribute to drug abuse across the life course. When drug problems affect the general community, compassion is rare; harsh and punitive approaches are favoured. [26] Evidence suggests that opinions are hardening, with increased support for tougher penalties for drug trafficking. [61] Further, the memories of voters are short-lived, and consequently long-term approaches are less likely to be favoured. Community understanding of drug issues and compassion for drug users need to be increased if calls for inadequate prevention measures and harsher 'treatment' approaches are to be curtailed.

There are significant barriers to change. For example, it is easier and less costly in the short term to conduct interventions and research at the individual level than at the community, state and national levels. However, the environment is a powerful shaper of behaviour of health, and government and other social organisations can have a powerful role in shaping that environment.

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APPENDICES

APPENDIX 1: DSM-IV CRITERIA FOR PSYCHOACTIVE SUBSTANCE USE DISORDERS

Table 1: Criteria for Substance Abuse from the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV)

A.	A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:
(1)	recurrent substance use resulting in a failure to fulfil major role obligations at work, school or home (e.g. repeated absences or poor work performance related to substance use, substance-related absences, suspensions or expulsions from school; neglect of children or household)
(2)	recurrent substance use in situations in which it is physically hazardous (e.g. driving an automobile or operating a machine when impaired by substance use)
(3)	recurrent substance-related legal problems (e.g. arrests for substance-related disorderly conduct)
(4)	continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (e.g. arguments with spouse about consequences of intoxication, physical fights)
B.	The symptoms have never met the criteria for Substance Dependence for this class of substance.

Source: American Psychiatric Association. [1]

Table 2: Criteria for Substance Dependence from the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV)

A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:

(1) tolerance, as defined by either of the following:

  (a) a need for markedly increased amounts of the substance to achieve intoxication or desired effect

  (b) markedly diminished effect with continued use of the same amount of the substance

(2) withdrawal, as manifested by either of the following:

  (a) the characteristic withdrawal syndrome for the substance (refer to Criteria A and B of the criteria sets for Withdrawal from the specific substances)

  (b) the same (or closely related) substance is taken to relieve or avoid withdrawal symptoms

(3) the substance is often taken in larger amounts or over a longer period than was intended

(4) there is a persistent desire or unsuccessful efforts to cut down or control substance use

(5) a great deal of time is spent in activities necessary to obtain the substance (e.g. visiting multiple doctors or driving long distances), use of the substance (e.g. chain-smoking), or recover from its effects

(6) important social, occupational or recreational activities are given up or reduced because of substance use

(7) the substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g. current cocaine use despite recognition of cocaine-induced depression, or continued drinking despite recognition that an ulcer was made worse by alcohol consumption)

Source: American Psychiatric Association. [1]

APPENDIX 2: CRITERIA FOR SUBSTANCE USE DEPENDENCE IN ICD-10

Three or more of the following must have been experienced or exhibited at some time during the previous year:

1. A strong desire or sense of compulsion to take the substance

2. Difficulties in controlling substance-taking behaviour in terms of its onset, termination or levels of use

3. A physiological withdrawal state when substance use has ceased or been reduced, as evidenced by: the characteristic withdrawal syndrome for the substance; or use of the same (or a closely related) substance with the intention of relieving or avoiding withdrawal symptoms

4. Evidence of tolerance, such that increased doses of the psychoactive substance are required in order to achieve effects originally produced by lower doses

5. Progressive neglect of alternative pleasures or interests because of psychoactive substance use, increased amount of time necessary to obtain or take the substance or to recover from its effects

6. Persisting with substance use despite clear evidence of overtly harmful consequences, such as harm to the liver through excessive drinking, depressive mood states consequent to heavy substance use, or substance-related impairment of cognitive functioning. Efforts should be made to determine that the user was actually, or could be expected to be, aware of the nature and extent of the harm.

Source: World Health Organization. [2]

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