22

Cost-benefit and cost-effectiveness information about youth homelessness is limited in Australia. Pinkney and Ewing (1998) estimated that the long-term economic cost to the community, of not assisting the estimated 25,000 students who experience homelessness in a year would be 'in excess of half a billion dollars per year'. The largest part of this estimated amount is the cost of educational disadvantage, supplemented by the costs to the community of ill-health and involvement in the criminal justice system. Pinkney and Ewing estimated a cost-benefit break-even point where only one in five young people are successfully helped to avoid long-term homelessness. Using the same methodology, but considering the 50,000 children who pass through SAAP services each year, the long-term cost to Australia of not successfully assisting young people to avoid homelessness might be closer to $1 billion per year. The average cost of prevention and early intervention for families and children was $3,079 per family, compared to the $3,130 unit cost for SAAP, which, if capital and maintenance of housing costs are included, could be as high as $8,500. On the existing evidence, actual budget costs to government of redressing homelessness are considerably less than the long-term cost to the community of not doing so. Providing prevention and early intervention measures for young people or families is cheaper than the assistance required once they have become homeless.

Chapter 22 | Costs and benefits

Introduction

22.1 The Burdekin Report raised the issue of the costs and benefits of addressing homelessness. The report divided costs into those incurred by the homeless individual and those incurred by the community. The economic cost to the community included direct government outlays, the consequences of homelessness suffered by other members of the community (for example victims of crime), and the direct and indirect costs of housing, medical and health costs, community services and training incurred by Federal and state governments.[1] Although the report did not provide a dollar figure it noted:

> *While federal government outlays on income support for homeless youth are relatively small in magnitude the potential long-term impact on social security outlays that results directly from homelessness is likely to be substantial.*[2]

22.2 Jan Carter, one of the three HREOC Commissioners commented further in 1990 on the economic consequence of inaction on youth homelessness. She noted that the greatest benefit of reducing youth homelessness is the increased participation of youth in communities and that although reducing youth homelessness increased government expenditure in the short run, over the longer term it could reduce child protection expenditure and lead to higher productivity.[3] Dixon, who advised the HREOC inquiry, also discussed this issue. He argued the greatest cost to the community from homelessness was the loss of taxation revenue due to unemployment or underemployment.[4]

Cost-benefit?

22.3 Governments commonly use cost-benefit analysis to decide whether to make a change in a public policy or program. Cost-benefits analysis compares the cost of a

change with projected benefits of making the change. This comparison is achieved by adding up all the values of the benefits of the change and subtracting the costs of implementing the change. If the result is positive (i.e. if the benefits are greater than the cost) then the change is financially viable.

Cost effectiveness?

22.4 Cost-effectiveness undertakes a financial analysis of the practices and policies used to achieve a desired outcome (e.g. reduce youth homelessness) in order to calculate the cost-effectiveness of interventions, models of practice or social programs. This usually entails identifying desired outcomes and comparing strategies that affect these outcomes. For example, effective early intervention for young people at risk of homelessness would mean that they may then avoid the use of services that would otherwise be needed if no intervention was provided (such as entering SAAP services or the public housing system).

Cost efficiency?

22.5 Cost-efficiency allows comparisons of costs on the basis of achieving a desired outcome of different locations or methods of a program. For example, a cost-efficiency analysis of the Reconnect program would consider delivery costs and service usage costs for the program at various locations as well as make comparisons across the entire program.

22.6 Although, there has been relatively little done on the costs and benefits of homelessness programs in the past 20 years, this chapter is able to draw upon three cost-benefit Australian studies. Assessing the long-term costs and benefits of programs and their cost-effectiveness and cost-efficiency is important to ensure that publicly funded programs work well for homeless people and for the broader community. Cost-benefit analyses can inform public policy decisions and provide supporting arguments for long-term expenditure.

22.7 In methodological terms, there have been several different measures used to evaluate homelessness programs: cost-benefit analyses, as well as cost-efficiency and cost-effectiveness measures. While cost-efficiency issues are important for program planners in government departments, this Inquiry was more concerned about the long-term economic consequences of homelessness policy and programs, i.e. cost-benefit considerations, and how well certain measures are working, i.e. cost-effectiveness.

22.8 Homelessness prevention programs are difficult to evaluate because they are successful when something does not happen. If the program is successful in preventing homelessness then the cost associated with homelessness is avoided, leading to questions about how best to measure costs that are not incurred. Cost-effectiveness attempts to analyse and compare which practices and policies best reduce the incidence of homelessness. A number of recent studies have applied cost–effective analyses to homelessness programs.[5]

22.9 In order to undertake any cost-benefit and cost-effectiveness analysis an accurate estimate of program costs and outcomes is essential. The costs incurred in homelessness programs can typically be broken down into three broad categories:

- the cost of administering the program
- program delivery costs
- costs to service users.

22.10 A confounding factor in the calculation of the cost of homelessness remediation programs is that the homelessness service system bears the costs of the failure of other systems.

Early intervention programs – cost-benefits

22.11 Daryl Dixon outlined the arguments of the HREOC report on the issue of the costs and benefits of ameliorating homelessness. In 1998, Pinkney and Ewing on the basis of better data on homelessness undertook a more detailed economic evaluation of the costs of youth homelessness6 using existing statistical information and made assumptions about what happened over time. They pointed out that measures of program outcome might well underestimate the consequences of homelessness for individuals. One reason for this could be the difficulties of quantifying in dollar terms the many variables influencing the cost to individuals. There are also formidable practical problems in gathering good data on the homeless population. In addition, the members of the homeless youth population are diverse so the benefits accruing from supporting individual homeless young people will necessarily differ.

22.12 There are two other recent economic analyses of early intervention programs for families at risk of homelessness. The first was by Dr Paul Flatau who headed an AHURI study of the Supported Housing Assistance Program (SHAP) in Western Australia. The second was contained in the evaluation report of the Australian Government HOME Advice Program. Although these studies are not about homeless young people, they do provide some relevant analysis of homelessness early intervention programs.

22.13 Despite some points of difference, the HOME Advice Program and SHAP in Western Australia are both early intervention programs for families at risk of becoming homeless, including young families. SHAP is a program aimed at assisting public housing tenants who are at risk of eviction. SHAP services are provided by non-government agencies funded by the WA Department of Housing and Works. The services assist families to improve their housekeeping and budgeting skills, and to deal with domestic violence, child abuse, drug and alcohol problems and mental illness. Participation is voluntary. The HOME Advice Program provides open-ended housing support, financial assistance, advocacy, relationship support, family health and wellbeing support using a family-centred, strength-based model.[7]

22.14 Flatau reported an average cost per client for SHAP services of $3,300.[8] The cost per family of the HOME Advice Program ranged from $1,323 to

$3,436.[9] The cost of becoming homeless and entering SAAP services was found to be significantly higher than the cost of these programs. The average unit cost for SAAP was $3,130, which could be closer to the Western Australian figure of $4,551 if a building component for crisis support were added in and possibly as high as $8,500 if the full costs of capital infrastructure were added in. Information on unit costs was not well-developed at the time of this inquiry.[10]

Homelessness cost-offsets

22.15 Numerous indirect consequences may result from people being on a homelessness support program. If a homelessness program improves mental health, financial stability or employment outcomes, then the use of emergency medical services and criminal justice services is likely to fall, resulting in lower government outlays in those areas.[11] These government savings are sometimes called 'cost-offsets'. If a housing support program results in a long-term reduction in the homeless population, then the cost of providing expensive crisis accommodation should also reduce. The reduced costs of these services have been found to significantly offset the cost of housing provision.[12] These indirect impacts or 'cost-offsets', can be calculated and should be included in any analysis of the costs and benefits of homelessness programs. Cost-offsets are calculated as the reduction in the cost of service delivery discounted to capture an estimate of the ongoing impact of future service usage.

22.16 On the other hand, it has been argued that people receiving housing assistance may increase their use of services such as health or welfare benefits due to greater knowledge and facilitated access to them. The counter-argument is that if the increased consumption of benefits includes education and employment services, this might ultimately result in a net contribution to the Australian economy.

22.17 It is important to consider the cost of non-housing-related services used by homeless young people and those at risk of becoming homeless compared with the general population. The report by Flatau et al. provides estimates of usage by homeless persons and those at risk of becoming homeless taken from a quantitative survey of clients from a number of agencies catering for homeless and at-risk clients. Flatau's estimates of cost-offsets are categorised as related either to health or the criminal justice system.[13]

22.18 The relationship between health and homelessness has been highlighted in several Australian studies[14] and was discussed in Chapter 17 of this report. The evidence provided to the Inquiry by witnesses across Australia indicates that young homeless people experience significant health problems that compound the difficulties they face.

22.19 Witnesses submitted evidence to the Inquiry suggesting high and increasing levels of problematic alcohol and other drug use in the young homeless population. The evidence in relation to alcohol and other drug use was discussed in Chapter 11.

22.20 Higher consumption of drugs and alcohol among the homeless youth population has several implications. Firstly, the greater use of drugs may result in higher mortality and morbidity although how much higher than the rest of the population is difficult

to quantify. Secondly, drug dependence has often been associated with petty crime the cost of which can be calculated in terms of loss to property owners in terms of property stolen, the cost of providing security for dwellings, insurance costs, and police and court time. Thirdly, there is also an increased risk of the transmission of communicable diseases such as STDs, and Hepatitis B and C.

22.21 Ill-health not only reduces the productivity of labour through reduced direct production and premature death, but the community also bears the cost of treating those who are ill as a result of homelessness. Reduced productivity and production due to illness is difficult to quantify because of the lack of data on mortality and morbidity rates for homeless versus non-homeless persons. However, as an indication of these costs Antioch et al. estimated the morbidity cost of Hepatitis B in terms of the '...value of goods and services not produced' in Australia in 1989 – 1990 at $1.1 million and a present value of the lifetime earnings lost by those who died from this disease in 1989 – 1990 of $4.9 million or $200,000 per person.[15] Morbidity and mortality costs resulting from the chronic sequelae of Hepatitis B were an additional $23.5 million.[16] Hence the total morbidity and mortality cost of this one disease in 1989 – 1990 was estimated to be about $30 million.

22.22 The important question is what is the additional cost of medical and health care for homeless young people over the average member of the community? Pinkney and Ewing proposed that young homeless people under-use public medical services, tend not to seek treatment, cannot afford medication and due to the transitory nature of their predicament are seldom able to obtain follow up consultations.[17] However, the real cost to the community is the impact of the untreated illness or disease.

22.23 While there was no direct calculation of the difference in health cost between homeless and non-homeless individuals, Pinkney and Ewing assumed a 50 per cent increase in health deterioration and cost for the rest of the lives of students entering chronic homelessness (more than one year). For students entering long-term homelessness (several months) they assumed a 50 per cent higher health cost for a two-year period. They measured cost using per capita health care expenditure for 1992-1993 as a proxy for the cost of health deterioration, a method that yields a very conservative estimate of cost. Nevertheless Pinkney and Ewing estimated that the total direct health cost of failing to intervene with the estimated 12,500 homeless students nationally in 1994 was about $70 million.[18]

22.24 The relationship between crime and homelessness was discussed in Chapter 18 Crime and Legal Issues. In terms of youth homelessness, Pinkney and Ewing noted that some young people leave home after becoming involved with the police.[19] However, there is a significant body of evidence to indicate that offending is widespread within the homeless youth population. As was discussed in Chapter 18, crime is often committed by homeless young people out of necessity, simply to eat and/or support a drug habit.

22.25 There are no studies that directly estimate the criminal justice costs for the homeless community per se in comparison to the rest of the community. There is some indirect evidence - Alder et al, in a survey of Western Australian police officers, found that street kids were considered to be the most difficult group of young people to deal

with.[20] According to Pinkney and Ewing, in 1994 Victorian police processed homeless young people (aged between 14 and 24) at a rate approximately 10 times the rest of the youth population. A very conservative estimate proposed by Pinkney and Ewing was that:

> *If we compare…homeless youngsters appear at least twice as likely to be apprehended for a criminal offence.*[21]

22.26 While this judgement should be interpreted with some caution as higher rates of offending by homeless people may indicate their higher visibility to police and the criminalisation of homelessness, the costs relating to youth homelessness do not seem to be limited to criminal offending. Anecdotal evidence from police indicates that in certain regions a not insignificant amount of police time and resources is consumed in caring for and finding temporary accommodation for homeless persons. A reduction in homelessness through early intervention would free valuable police time to pursue other more pressing matters. It should also be noted that the benefits of reduced homelessness could reduce the costs to the criminal justice system well into the future.

22.27 A direct measurement of the cost-offsets involved in the health and criminal justice systems from homelessness amelioration programs is not possible. However, Flatau et al. provided estimates of cost offsets of homeless families versus the general population in the health and criminal justice systems.[22] This involved estimating the unit costs of delivering a range of health and justice services using service utilisation rates of various client cohorts and for the population in general. Top-down unit costs for a number of government services are published in the Productivity Commission SCRGSP Annual Report on Government Service Provision, Australian Institute of Housing and Welfare (AIHW) publications and Police Annual reports. These sources also publish service utilisation rates for the population. Although top-down unit costs are not ideal, Pinkney and Ewing indicated that they are the most likely source of such data for Australian researchers. One of the limitations of the published unit cost and service utilisation data they used in their study is that it is neither all from a common time period nor calculated regularly, hence the need to adjust past dollar figures for inflation.

22.28 The results of the year-long client survey reported in Flatau et al. showed differences in service usage between people accessing homelessness prevention services and the general population. Client survey data was used to determine service use over the previous year. In most instances the unit cost and population use of health and justice services is for Western Australia only. On average 43.9 per cent of survey respondents reported suffering mental illness and 20.7 per cent expressed concern regarding their drug and alcohol consumption. This compares with population averages of 18 per cent of people experiencing mental health problems[23], 9.9 per cent drinking alcohol at levels that risk harm and 6.2 per cent of people surveyed in the 2004 National Drug Strategy Household Survey reporting using illicit drugs in the previous week.[24] These differences suggest that even with housing assistance the average client use of other government services is unlikely to be similar to the general population. This comparison was for the homeless population using SAAP services, not just young people, where the differences might well be greater.

22.29 Flatau et al. calculated an average cost of both health and justice services used by SHAP clients, which exceeded the population average. For example, the higher frequency of hospital visits reported by clients compared with the population adds $8,464 per year for SHAP clients to the government cost of health services. The total health and criminal justice offsets are $10,643 and $2,541 respectively. These are annual figures and not indicative of the long-term impact which homelessness has. The discounted present value of the total health and criminal justice offsets, referred to as Average Life Outcomes is $332,315 per person. This would be conservative for young people as it is calculated over a 45-year period and at a three per cent discount rate.

22.30 These figures can be compared with estimates made by Pinkney and Ewing and republished in the HOME Advice Evaluation report. Starting with per capita health costs published by the ABS it was assumed that young people experiencing chronic homelessness would encounter a 50 per cent increase in health deterioration and subsequent health costs for the rest of their lives. Those experiencing long-term homelessness are assumed to incur a 50 per cent increase in health deterioration and health costs for a two-year period. An increase in health related costs of young people expected to enter long term and chronic homelessness was estimated at $2,120 per person per annum. This translates to a net present value of $51,987 for each of the estimated 1,438 chronically homeless young people and $4,057 for each of the 5,750 long-term homeless young people. The total cost of this deterioration in health was reported to be $98,060,207.

22.31 Once again calculations can be done for the cost of homeless young people in families relating to their involvement in the criminal justice system. Potas et al. estimates that the cost of juvenile crime was at least $1.5 billion in 1986-87.25 This figure was adjusted for inflation. An estimate of five times the incident of involvement by chronic and long-term homeless young people in the criminal justice system and number of years that involvement lasts (five years for chronically homeless young people and two years for long-term homeless young people) was been taken from Pinkney and Ewing.[25] The increase in criminal justice costs for young people in families expected to enter long term and chronic homelessness was estimated to be $1,392 and $5,569 respectively per annum. The estimated present value of the involvement of young people in the criminal justice system of was $51,977,402 [this figure depends on numbers of homeless people in each category].

22.32 The above analysis of cost-offsets focuses on the direct impact on government outlays resulting from reductions in homelessness. There are, however, other benefits from a reduction in homelessness and while many of these flow to the beneficiaries of the program, others benefit the community as a whole. Such benefits include:

- Reduced social security payments and welfare assistance;
- Lower insurance premiums;
- Lower costs in home and property security;
- Improvement in the quality and amenity of life for the community and individuals involved;
- Reduced risk of disease transmission;
- Reduced truancy;

- Benefits to landlords/public housing authorities;
- Savings from reduced informal support by family and friends;
- Reduced numbers of homeless persons and families;
- Reduced demand for emergency, assisted and publicly funded accommodation;
- Greater family and social cohesiveness.

22.33 The assignment of dollar values to many of these benefits is difficult. Nevertheless these are important and tangible benefits that should be recognised in any analysis of homelessness programs.

22.34 Following Darryl Dixon's point, Pinkney and Ewing noted that earlier studies of the economic impact of homelessness amelioration programs focused on expenditure by government in income support and lost tax revenue.[27] They propose that the more fundamental costs of homelessness relate to reduced production (and resulting lost tax revenue) rather than increased financial outlay. Citing Perkins, they note that:

> *In essence undertaking an economic analysis involves all project input costs and output benefits in such a way that they reflect the true cost to the economy of using inputs required and the true benefits to the country of the output produced by the project.*[28]

22.35 Hence, Pinkney and Ewing noted that purely focusing on measuring costs in financial expenditure terms has three key limitations. Firstly, this approach focuses only on those outlays by the public sector. However, the real benefit to the community of reduced homelessness is the total value of work done by those re-engaging with the workforce. Pinkney and Ewing say this benefit can be 'represented by the worker's wage' but even this approach understates the real contribution to the economy.[29] Wages paid, even if they include on-costs, do not necessarily equal the value of production added to the economy. Secondly, they argued that transfer payments are not a net loss to the economy but rather shift spending power from one section of the community to another. Accordingly, the improvement in community welfare arises when recipients value income more highly than taxpayers. However, in an economic sense, shouldn't the question be whether the recipient makes a greater return on investment than the government if the funds were invested in the next most valued use? A third problem with the outlays approach is that the less money allocated and paid, the lower the take-up rates by recipients and the less the cost of homelessness recorded. The fact that homeless individuals do not receive a full measure of public funds is seen as a positive in budgetary terms.

22.36 A direct and obvious consequence of homelessness is the reduced production and productivity through unemployment, underemployment and other labour market disadvantages caused by educational disadvantage. Homelessness makes gaining and maintaining steady employment difficult, in the same way that it makes it difficult for students to continue their studies and reach their full potential (see Chapter 8 Labour Market Marginalisation).

22.37 The relationship between youth homelessness, lack of skills and work experience, premature school leaving and unemployment was highlighted by Pinkney and Ewing. The chance of being unemployed and length of unemployment relate to the level of education. Further, there is an increased likelihood of unemployment remaining

throughout the person's working life. For those who find work, educational disadvantage from a low educational achievement results in significantly lower lifetime wages.[30] People with a tertiary degree have as much as a 60 per cent higher mean wage than those who left school at 18 or under. Chamberlain and Mackenzie have estimated that in any given year around two-thirds to three-quarters of students who become homeless do not complete the school year.[31] Pinkney and Ewing estimated that in 1994 approximately 16,500 young people dropped out of school and that 60 per cent of these students would have completed year 12 if not for becoming homeless. Further, they note that unemployment rates for those who have not completed year 12 are significantly higher than for those who complete year 12.[32] While many school leavers return to school few complete year 12. Pinkney and Ewing proposed that a generally accepted figure is that leaving school before completing Year 12 reduces future earnings by 10 per cent.[33]

22.38 Following broadly the methodology used by Pinkney and Ewing and the HOME Advice Program Evaluation report, the potential economic cost due to educational disadvantage for young people becoming homeless can be estimated. Given the fall in unemployment since this study and the skills shortage in many sectors of the economy this approach becomes more acceptable than it was when first done in 1998. Average annual earnings figures for 2006 were used (from ABS data). For the estimated 25,000 homeless young people (aged 12 to 18) as at the census date in 2001 the total lifetime earnings lost by not completing Year 12 were estimated to be $642.7 million while total earnings lost from forgoing tertiary education was an additional estimated $321.3 million. Together these two figures give a total cost of forgoing education by young people in homeless families of $964.0 million. Even if only 20 per cent of the young people in homeless families dropped out of school this would reduce earnings from not completing year 12 by $128.5 million and from forgoing tertiary education by $64.3 million, giving a total lost value of production of $192.8 million.

Findings and Recommendations

22.39 While programs such as HOME Advice and SHAP are not specifically targeted at young people they provide an indication of the range of costs that such programs incur. As stated above, their costs range from $1,323 to $3,436. Taking the figures from Flatau et al. and the conservative estimates of long-term homelessness as developed by Pinkney and Ewing, estimates of cost-offsets for criminal justice range from $1,392 to $2,541 and for health from $4,057 to $10,643. Thus, cost offsets in the justice and health systems well and truly exceed program costs. Once the cost offsets and benefits associated with other systems are taken into account, e.g. the educational disadvantage which homelessness brings and its resulting impact on lost productivity of the nation, the benefits associated with homelessness programs are overwhelming financially positive.

22.40 The cost-benefit arguments documented in this chapter draw on analysis done in 1998 by Pinkney and Ewing and more recent work done in 2006-7 on families at-risk of homelessness. Clearly, there is a need to undertake more studies of cost effectiveness and assemble cost-benefit data. However, there is sufficient work done in this area to inform the argument for prevention and early intervention in response to youth homelessness. A critical issue is to what extent the program response reaches the need among young people.

Recommendation 22.1

The NYC Inquiry recommends that national policy on youth homelessness address the unmet need for early intervention and prevention responses for at-risk and homeless young people.

Recommendation 22.2

The NYC Inquiry recommends that a longitudinal cost-benefit study of homeless young people be undertaken.

Recommendation 22.3

The NYC Inquiry recommends that an independent cost-effectiveness study be undertaken of the different models of early intervention for homeless young people and their families as well as supported accommodation for young people in SAAP.

ENDNOTES

1 Human Rights and Equal Opportunity Commission (1989) Our Homeless Children, AGPS, Canberra, p.75.
2 Ibid p.77.
3 Carter, J. (1990) "Urban Poverty as it Effects Children: Some Costs of Child and Youth Homelessness, Children and the Future of Work", in Crossley, L. (ed) Child Policy Review No. 3, Brotherhood of St Laurence, Melbourne.
4 Dixon, P. (1993) "Economic Benefits of Supporting Homeless Young People" in Sykes, H. (ed) Youth homelessness: courage and hope, Melbourne University Press, Melbourne.
5 Weinstein, B. L. & Clower, T. L. (2000) The cost of homelessness in Dallas: An economic and fiscal perspective, Centre for Economic Development and Research, University of North Texas.
Rosenheck, R. & Seibyl, C. L. (1998) "Homelessness: Health Service Use and Related Costs" in Medical Care, Vol. 36, No. 8.
6 Pinkney, S. & Ewing, S. (1997) The economic costs and benefits of school-based early intervention, Centre for Youth Affairs Research and Development in Association with The Queen's Trust for Young Australians Melbourne.
7 MacKenzie, D., Desmond, K. & Steen, A. (2007) Household Organisational Management Expenses (HOME) Advice Program: evaluation report, Department of Families, Communities and Indigenous Affairs, Canberra.
8 Flatau, P. (2007) The effectiveness and cost-effectiveness of homelessness prevention and assistance programs, Conference paper presented at the Australian Social Policy Conference, Sydney: University of New South Wales, July.
9 MacKenzie, D., Desmond, K. & Steen, A. (2007) Household Organisational Management Expenses (HOME) Advice Program: evaluation report, Department of Families, Communities and Indigenous Affairs, Canberra.
10 Ibid.
11 Flatau, P., Martin, R., Zaretzky, K., Haigh, Y., Brady, M., Cooper, L., Edwards, D. & Goulding, D. (2006) The effectiveness and cost-effectiveness of homelessness prevention and assistance programs, positioning paper, Australian Housing and Urban Research Institute, p.44.
12 Culhane, D.P., Metraux, S. & Handley, T. (2002) Public service reductions associated with placement of homeless persons with severe mental illness in supportive housing, Housing Policy Debate 13.
13 Flatau, P., Martin, R., Zaretzky, K., Haigh, Y., Brady, M., Cooper, L., Edwards, D. & Goulding, D. (2006) The effectiveness and cost-effectiveness of homelessness prevention and assistance programs, positioning paper, Australian Housing and Urban Research Institute.
14 Human Rights and Equal Opportunity Commission (1989) Our homeless children, AGPS, Canberra, p.236

Jordan, A. (1995) Displaced: homeless adolescent claimants for social security payments, Department of Social Security, Research Paper No. 66 Canberra: Australian Government Publishing Service p.34.

15 Antioch, K. M., Waters, A.M., Rutkin, R. and Carter, R. C. (1993) Disease costs of Hepatitis B in Australia, Australian Institute of Health and Welfare, Canberra, p.8.

16 Antioch, K. M., Waters, A.M., Rutkin, R. and Carter, R. C. (1993) Disease costs of Hepatitis B in Australia, Australian Institute of Health and Welfare, Canberra p.10.

17 Pinkney, S. & Ewing, S. (1997) The economic costs and benefits of school-based early intervention, Centre for Youth Affairs Research and Development in Association with The Queen's Trust for Young Australians Melbourne.

18 Ibid.

19 Ibid.

20 Alder, C., O'Connor, I., Warner, K. and White, R. (1992) Perceptions of the treatment of juveniles in the legal system, report to the National Youth Affairs Research Scheme, National Clearing house for Youth Studies, Tasmania.

21 Pinkney, S. & Ewing, S. (1997) The economic costs and benefits of school-based early intervention, Centre for Youth Affairs Research and Development in Association with The Queen's Trust for Young Australians Melbourne. p.96.

22 Flatau, P., Martin, R., Zaretzky, K., Haigh, Y., Brady, M., Cooper, L., Edwards, D. & Goulding, D. (2006) The effectiveness and cost-effectiveness of homelessness prevention and assistance programs, Positioning Paper, Australian Housing and Urban Research Institute.

23 Australian Institute of Health and Welfare (2004) Australia's health 2004, AIHW, Canberra.

24 Australian Institute of Health and Welfare (2005) Alcohol and other drug treatment services in Australia: findings from the National Minimum Data Set 2003–2004, Australian Institute of Health and Welfare, Canberra.

25 Potas, I., Vining, A. and Wilson, P. (1990) Young people and crime: costs and prevention, Australian Institute of Criminology, Canberra, p.47.

26 Pinkney, S. & Ewing, S. (1997) The economic costs and benefits of school-based early intervention, Centre for Youth Affairs Research and Development in Association with The Queen's Trust for Young Australians Melbourne, p. 95.

27 Ibid, p.17.

28 Perkins, F. (1994) Practical cost benefit analysis: basic concepts and applications, Macmillan, Melbourne, p.9 cited in Pinkney, S. & Ewing, S. (1997)

29 Pinkney, S. & Ewing, S. (1997) The economic costs and benefits of school-based early intervention, Centre for Youth Affairs Research and Development in Association with The Queen's Trust for Young Australians Melbourne, p.17.

30 Ibid, p.53.

31 Chamberlain, C. & MacKenzie, D. (1995) p.26

32 Pinkney, S. & Ewing, S. (1997) The economic costs and benefits of school-based early intervention, Centre for Youth Affairs Research and Development in Association with The Queen's Trust for Young Australians Melbourne

33 Ibid.