

Long-term health costs of extended mandatory detention of asylum seekers

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Milbur Consulting

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I never, ever can focus [or] relax. I am always worrying about something. I'm always worried about the future because I can't rebuild it ... I've become so [much] weaker. It's not only because [of] age, you know ... I just can't rebuild it ... Before [detention] I used to like lots of things. Now, I don't like most things. Before, I liked to go and sit with friends and relatives. Now, I don't like that. Before, I didn't want to be alone. And now, I like to be – most of the time – I like to be alone ... It's not good, just sitting and thinking, thinking... It does worry me...

Successful asylum seeker describing life after extended detention for processing.



This report is part of a project by the Yarra Institute for Religion and Social Policy, funded by the Good Shepherd Australia and New Zealand.



Good Shepherd
Australia New Zealand

claimants.

The project aims at developing mechanisms to assist the processing of asylum seekers, and to improve the ease of transition into Australian society for successful asylum

The quote on the title page is from an asylum seeker cited in Guy Coffey, Ida Kaplan, Robyn Sampson and Maria Montagna Tucci (2010) “The meaning and mental health consequences of long-term immigration detention for people seeking asylum”, *Social Science and Medicine* 70 (12) June, 2070-2079.

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Executive Summary

This report urges Australians to consider the long-term consequences of asylum policies. Current approaches do not take into consideration many hidden costs associated with mandatory detention of asylum seekers.

The report highlights that in addition to the high costs of maintaining detention facilities, there are significant additional costs as a result of prolonged detention for the long-term healthcare of former asylum seekers once they are released into the community.

The national tax summit, held on 4 and 5 October 2011, received many submissions stressing the importance of careful long-term costings of policies.

In a similar vein, this report estimates the *Long-term health costs of extended mandatory detention of asylum seekers*. For the first time in Australia, it does so by applying innovative costing approaches developed in the Netherlands.

It is now well established that lengthy periods in detention cause significant mental health problems for asylum seekers. The Howard Government recognised this in 2005, when it agreed that 25 of the 27 detainees then remaining on Nauru should be brought to Australia. This was after doctors had diagnosed serious mental health conditions.

More generally, a study of detained asylum seekers in Australia found that more than one third of those detained for more than two years had new mental health problems in 2006-07. This was ten times the rate of mental health problems for those detained for less than 3 months.

There is good evidence that such trauma causes long-term mental health problems. This report estimates the lifetime health costs of such trauma. On conservative estimates – that trauma sufferers will have lifetime mental health costs 50% more than the average – the report shows this will cost an additional \$25,000 per person.

In recent years, more than 80% of detained asylum seekers have eventually been successful in settling in Australia. This means that such extra health costs have to be met by the Australian health system, and Australian taxpayers have to pick up the tab.

The Australian immigration system already has extensive health checks for migrants seeking to come to this country. One of the key reasons is to protect public expenditure on health and community services.

It is strange that another current element in current immigration policy – mandatory detention of asylum seekers – has the direct effect of increasing public expenditure on health and community services.

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Introduction

Several months after being released, a successful asylum seeker still bore scars of her time in detention:

I'm very happy because I have my liberty, but I feel that the detention adds to my problems now of fear. What I experienced there is very difficult to forget. Every day I think about my life in prison. Even this morning I thought about it and started crying. And I think about the people who are still there and who are suffering, and that makes me afraid. Things have improved for me because I have my liberty, but I still think about it. ... I dream a lot about a friend of mine (who was released) and I. In my dreams both she and I are still there and the guards are yelling things at us and mistreating us.¹

There is major debate in Australia at present over the best way to manage the processing of claims for asylum. Participants share the aim of establishing effective mechanisms – albeit while disagreeing on the relative importance placed on aspects of the policy. This report contributes to this debate by examining a previously under-researched area – the economic costs of long-term health impacts of mandatory detention. Any consideration of the effectiveness of mandatory detention should consider such costs, with their impacts both on the individuals concerned and on the community generally.

Numerous studies have suggested the adverse impacts of extended mandatory detention on the mental health of asylum seekers. These impacts on mental health obviously have implications for healthcare costs. More than 80% of asylum seekers in detention are eventually successful in settling in Australia², so most of these health costs will be met by the Australian health system. However, these costs have thus far not been assessed.

This report suggests a mechanism for assessing these costs, using an innovative model of lifetime healthcare costs developed in the Netherlands. There are many acknowledged uncertainties in the calculations. Nonetheless, the report demonstrates that, on plausible assumptions, adverse experiences in extended detention could add some \$25,000 to the average lifetime health costs for each successful asylum seeker. The model provides a framework for further discussion and refinement of these cost estimates.

¹ Physicians for Human Rights and the Bellevue/NYU Program for Survivors of Torture (2003), *From Persecution to Prison: The Health Consequences of Detention for Asylum Seekers*, Boston and New York City, June, p84-5

² See John Menadue “Counting the cost of immigration detention” ABC on-line 17 May 2011 <http://www.abc.net.au/unleashed/2693018.html>

Other studies have documented that alternatives to detention are considerably cheaper for processing asylum seekers' claims. This paper reinforces these cost arguments by showing that it is in the long-term financial interest of the Government to minimise the length of time spent in detention.

The report is in four parts:

- The first provides a brief overview of differing accommodation options for asylum seekers, summarizing recent cost calculations for these options. These estimates provide a context to assess the comparative importance of the later estimates for lifetime healthcare costs.
- The second notes several studies that have demonstrated the adverse long-term impacts of extended mandatory detention on the mental health of asylum seekers.
- The third part estimates Australian health costs for each year of life, and applies these to life tables to calculate lifetime health costs. The approach allows the calculation of differential health costs for different assumptions for morbidity and mortality. It is based on recent approaches calculating lifetime health costs, particularly the innovative methodology developed by the National Institute for Public Health and the Environment (RIVM) in the Netherlands.
- The fourth part uses this methodology to estimate the additional long-term health costs of poor mental health caused by lengthy periods of detention.
- A technical appendix provides the estimation procedures for the calculations.

1. Mandatory Detention and Alternatives

Since the 1990s, the Australian Government has had a policy of mandatory detention for asylum seekers arriving in this country by boat. Asylum seekers have been detained both for initial identity and security checks and for the processing of asylum claims. In late 2010, the Government modified the system by allowing families and especially children to live in the community while their claims are processed.

This Australian system contrasts with that used in many other countries. Two reviews published in early 2011 have surveyed the international experience: the first *Back to Basics* by the UN High Commission for Refugees³; and the second *There are*

³ Alice Edwards (2011) *Back to Basics: The Right to Liberty and Security of Person and 'Alternatives to Detention' of Refugees, Asylum-Seekers, Stateless Persons and Other Migrants* UN High Commission for Refugees (UNHCR) Legal and Protection Policy Research Series No 17, April

Alternatives by Robyn Sampson et al.⁴ Both reports note examples of alternative processes, for example⁵:

- Argentina operates with a presumption against detention.
- New Zealand has established alternatives to detention in law.
- Hong Kong has developed criteria to assess the need to detain. Many asylum seekers are released into the community, with basic needs met for eligible groups.
- Indonesia has established a mechanism by which irregular migrants holding UNHCR documentation may live in the community.
- The United Kingdom has increased investment in early legal advice because it results in quicker and more durable decisions, saving money overall.
- Belgium has expanded its return counseling program for families because compliance rates remained high and children were no longer detained.

Worldwide, countries are grappling with a range of issues in developing effective policies to manage asylum seekers. These reports document processes that have been successfully tried in other countries – and provide useful information to assist Australia improve policies here.

One element in considering the different alternatives is the cost of processing asylum claims. This report provides a mechanism to assess the long-term healthcare costs resulting from extended detention. To give a context for the scale of such costs, it is useful to start with evidence on the comparative direct costs of detention and alternatives while asylum claims are processed.

The most recent review of the costs of detention comes in the UN High Commission for Refugees April 2011 report *Back to Basics*, which includes the data shown in Table 1. This shows a massive difference between the costs of detention and of community-based alternatives. This is primarily due to two factors:

- Construction costs, whereby purpose-built high security facilities are more expensive than normal housing; and
- More importantly, staffing costs, with the costs of round-the-clock security and the provision of food and other services much more expensive than in community-based alternatives in which asylum seekers undertake many of the tasks themselves.

⁴ Sampson, R., Mitchell, G. and Bowring, L. (2011) *There are Alternatives: A handbook for preventing unnecessary immigration detention* Melbourne: The International Detention Coalition and La Trobe Refugee Research

⁵ Sampson *There are Alternatives* p5

Table 1.
Comparison of Detention costs versus alternatives to detention (A2D) costs

Country	Detention per person per day	A2D per person per day	Difference per person per day
Australia	\$A339; (\$A124 for 'community detention')	\$A7 - \$A39	\$A300 - \$332
Canada: Toronto Bail Program	\$C179	\$C10-\$C12	\$C167
United States	\$US95	\$US22	\$US73

Source: Alice Edwards (2011) *Back to Basics: The Right to Liberty and Security of Person and 'Alternatives to Detention' of Refugees, Asylum-Seekers, Stateless Persons and Other Migrants* UN High Commission for Refugees (UNHCR) Legal and Protection Policy Research Series No 17, April, p85. The sources and dates for the information vary, but are generally for around 2005.

Four years earlier, a report for Oxfam Australia calculated that

In the six years since the Tampa crisis in August 2001, Australian taxpayers have spent more than \$1 billion to process fewer than 1,700 asylum seekers in offshore locations – or more than half a million dollars per person.⁶

The Oxfam report included a wide range of costs, including interception, infrastructure maintenance and operation, transportation and services, and aid program costs.

On a narrower definition, of the direct costs of running detention centres, the Department of Immigration has recently provided two comparisons for Villawood in Sydney and Christmas Island:

- For 2005-06, the Department estimated costs per detainee at Villawood of \$190 per day, in comparison to \$2,895 per day on Christmas Island.⁷
- Subsequent estimates were \$238 per day at Villawood, compared to \$1,830 per day on Christmas Island.⁸

It is not surprising that cost estimates in such institutions vary from year to year. As the UNHCR report noted, specially built immigration facilities have significant capital and staffing costs regardless of the number of detainees. A year with high numbers of

⁶ Kazimierz Bem, Nina Field, Nic Maclellan, Sarah Meyer, Tony Morris (2007) *A price too high: the cost of Australia's approach to asylum seekers* Melbourne: A Just Australia, Oxfam Australia and Oxfam Novib, August, p3

⁷ Bem et al *A price too high* p32-3

⁸ Bem et al *A price too high* p4

detainees (more specifically, numbers of detainee-days) will have lower average costs per day per detainee than a year with smaller numbers of people detained.

Milbur Consulting assembled a comprehensive assessment of the comparative costs of accommodation alternatives in 2003⁹. This report investigated the costs of mandatory detention, hostel detention and living in the community. It also considered alternative processing mechanisms, whereby all asylum seekers were initially detained for identity and security assessment, followed by a range of accommodation options depending on those assessments. Table 2 shows the costs estimated for the accommodation options.

Table 2.
Costs per person per day, for asylum seekers

	Detention centre	Hostel	Community support
Case Management	\$10	\$10	\$10
Accommodation and food	}	}	\$20
Assistance services	}	\$100	\$15
Security	}	}	\$15
Total	\$170	\$110	\$60

Source: Milbur Consulting *Improving outcomes and reducing costs for asylum seekers* Melbourne: Justice for Asylum Seekers Network, 2003 p28. This report used current data from support services for asylum seekers (Red Cross), corrections costs across Australia (Productivity Commission Report on Government Services), and aged-care costs (Productivity Commission again and Allen Consulting Group (2002) *The Financial Implications of Caring for the Aged* Melbourne: Myer Foundation).

There is clearly some variation in the estimates cited by these studies. Nonetheless, the clear conclusion is that mandatory detention has much higher operational costs than either hostel accommodation or community-based alternatives to detention.

The figures in Table 2 can be used to develop indicative estimates of the direct costs of extended detention. As noted, the source report costed a model whereby all asylum seekers were initially detained for identity and security assessment, followed by a range of accommodation options depending on those assessments. Assuming a six month application process after the initial assessment, continued detention would cost some \$31,000 per person¹⁰, \$20,000 more than six months of community support (which would cost some \$11,000 per person). These estimates provide a context to assess the comparative importance of the costs for lifetime healthcare estimated later in this report.

⁹ Milbur Consulting *Improving outcomes and reducing costs for asylum seekers* Melbourne: Justice for Asylum Seekers Network, 2003. The current author was lead author of this report.

¹⁰ This estimate uses the detention cost figure of \$170 per person per day in table 2. As noted in the text, recent Department estimates of costs have been considerably higher, at \$190-238 per day at Villawood. Using these costs would give higher figures both for the detention cost and for the amounts saved by using alternatives.

All the studies cited here note that longer term costs are also associated with detention policies. The UNHCR report notes its cost estimates “do not factor in the well-documented long-term consequences of detention on mental and physical health and related services, and later integration prospects of individuals”.¹¹ The Oxfam report noted:

Detainees held in offshore locations often bear the brunt of the policies through poorer mental health and general well-being, both in the immediate and longer term ... There are also higher costs borne by the broader Australian community as a result of having to integrate people who have been damaged by prolonged isolation in offshore processing centres.¹²

While noting that these costs exist, the studies did not attempt to estimate the level of such costs. This report suggests a mechanism for assessing these costs.

2. Mental health impacts of extended detention for asylum seekers

At a press conference in Canberra on 25 May 2011, United Nations Human Rights Commissioner Navi Pillay criticised mandatory detention of asylum seekers. She said:

Thousands of men, women and – most disturbingly of all, children – have been held in Australian detention centres for prolonged periods, even though they have committed no crime ... Mandatory detention is also a practice that can lead – and has led – to suicides, self-harming and deep trauma.¹³

Ms Pillay spoke of the "grim despondency" of asylum seekers she met in Darwin's detention centres as they waited "for months, or in some cases well over a year, to be released".

Six years earlier, in October 2005, then Immigration Minister Amanda Vanstone agreed that 25 of the then remaining 27 detainees on Nauru should be brought to Australia “on the expert advice of health professionals because of serious mental health concerns.”¹⁴

¹¹ Alice Edwards (2011) Back to Basics: The Right to Liberty and Security of Person and ‘Alternatives to Detention’ of Refugees, Asylum-Seekers, Stateless Persons and Other Migrants UN High Commission for Refugees (UNHCR) Legal and Protection Policy Research Series No 17, April, p85.

¹² Bem et al., *A price too high* p3

¹³ Jeremy Thompson “UN rights chief attacks 'disturbing' policies” ABC Online 25 May 2011, <http://www.abc.net.au/news/stories/2011/05/25/3226610.htm>

¹⁴ Bem et al., *A price too high* p4

More generally, the Oxfam report cited above wrote:

Medical studies, figures from the Department of Immigration and Citizenship (DIAC), testimony from staff and former asylum seekers on Nauru all paint a shocking picture of psychological damage for the detainees – including 45 people engaged in a serious hunger strike, multiple incidents of actual self-harm and dozens of detainees suffering from depression and other psychological conditions each year and being treated with anti-depressants or anti-psychotic medication.¹⁵

Similar findings came in studies cited in the Human Rights & Equal Opportunity Commission (HREOC) 2004 inquiry into Children in Immigration Detention.¹⁶ Chapter 9 of the report discussed the “Mental Health of Children in Immigration Detention”:

It is no secret that the institutionalisation of children increases the risk of mental health problems. Evidence from current and former detainee children and their parents, former ACM medical staff, Department Manager reports, State child protection agencies, State mental health agencies, independent mental health experts, torture and trauma services and community groups involved with current and former detainees all confirm the detrimental impact that long-term detention of children has on their mental health.

The report readily acknowledges that children who are detained for very short periods of time are less likely to have had the experiences described in this chapter. However, the cases and situations described ... demonstrate the connection between long-term detention and the declining psychological health of certain children

HREOC also noted the consistency of its findings in Australia with international evidence which “finds that prolonged detention has lasting negative mental health impacts on detainees.” One of the studies cited noted many detainees already had stress problems when they arrived. However “Psychological distress appeared to worsen as the length of detention increased. Severity of anxiety, depression and PTSD (Post Traumatic Stress Disorder) symptoms were all significantly correlated with length of time in detention.” Further, “those who eventually won asylum and were released offered examples of how their mental health improved upon release, but also described lingering effects of the detention experience”.¹⁷

¹⁵ Bem et al., A price too high p4, and see more detailed discussion on pp16-20

¹⁶ Human Rights and Equal Opportunity Commission (2004) A last resort? Report of the National Inquiry into Children in Immigration Detention Canberra, May

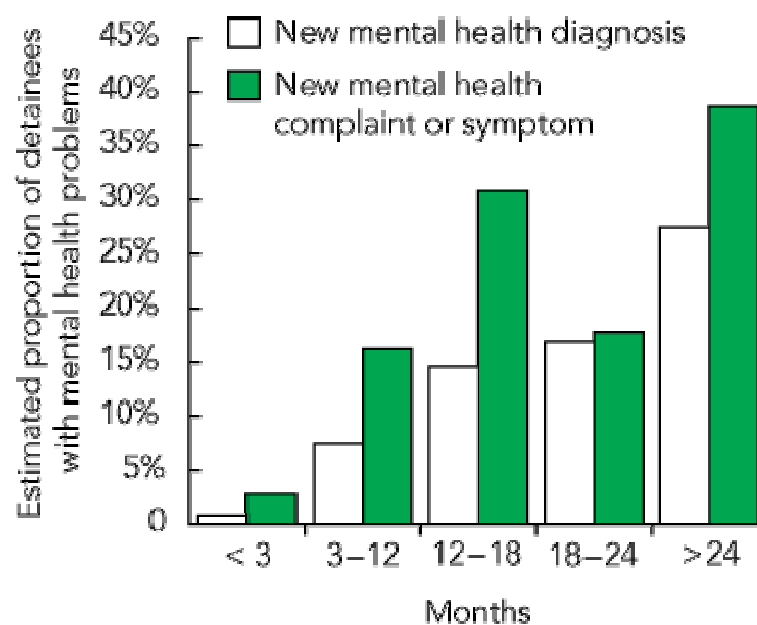
¹⁷ Physicians for Human Rights et al., From Persecution to Prison p56, 63

These findings have recently been supported in the technical medical literature, in journals such as the *Medical Journal of Australia*, *Social Science and Medicine*, and the *British Journal of Psychiatry*.

One study analysed the health records of 720 of the 7,375 people in detention in the 2005-06 financial year.¹⁸ It found extensive use of medical services by asylum seekers, with more frequent use the longer people had been in detention. Asylum seekers who had arrived by boat, and had been detained for 3 to 12 months, had an average of 3.1 new health problems in total, including an average of 0.7 new mental health complaints. The rates more than doubled for those who had been detained for more than two years, averaging 6.5 new health complaints, including 1.7 new mental health complaints.¹⁹

The authors further detailed this “clear association between time in detention and rates of mental illness”, summarising other data in Chart 1.

Chart 1.
Detainees with one or more new mental health conditions in 2005–06
by duration of detention



Source: Janette P Green and Kathy Eagar (2010) “The health of people in Australian immigration detention centres” *Medical Journal of Australia* 192 (2): 65-70

Chart 1 shows the pattern of new mental health complaints and diagnoses during this year. People detained for less than 3 months had very few mental health diagnoses – some 1%. The level of diagnoses increased dramatically with the length of detention.

18 Janette P Green and Kathy Eagar (2010) “The health of people in Australian immigration detention centres” *Medical Journal of Australia* 192 (2): 65-70

19 Green and Eagar “health of people” Table 6

More than one quarter of those detained for more than two years had new mental health conditions diagnosed in 2005-06.

The study noted that these findings are consistent with other studies, both in Australia and overseas. The largest, studying 4,500 asylum seekers in centres run by the Danish Red Cross, “found an increase in referrals for mental disorders with increased length of stay in asylum centres in a large, multiethnic population of asylum seekers”.²⁰

Another Australian study reported similar findings²¹:

There is now a large body of research indicating that immigration detention causes asylum seekers psychological harm. Studies have found that asylum seekers in detention have high rates of depression and Post Traumatic Stress Disorder (PTSD) and that the extent of their mental ill health is correlated with the length of time spent in detention.

The results in these Australian studies are consistent with international studies. A recent *British Journal of Psychiatry* review of studies world wide found “Time in detention was directly related to severity of symptoms” (of depression, anxiety and PTSD).

Further:

All studies found high levels of emotional distress among individuals who were in detention or who had been previously detained. Among children, mental health difficulties in combination with developmental and behavioural problems were observed. Although in its infancy, research into the effects of detention has used increasingly sophisticated methods in order to attempt to identify and isolate the independent effects of numerous adverse circumstances on the mental health of these individuals. This has produced evidence that the findings relate in part to pre-detention trauma experiences, in addition to detention itself having an independent adverse effect on mental health.²²

These studies have, often graphically, demonstrated the immediate adverse mental health impacts of extended detention for asylum seekers. The key issue for this study is the extent to which these immediate impacts produce long-term adverse results. As cited above, one study noted that while “mental health improved upon release”, there were

²⁰ Green and Eager, “The health of people”. The study cited is Hallas P, Hansen AR, Staehr MA, et al., (2007) “Length of stay in asylum centres and mental health in asylum seekers: a retrospective study from Denmark.” *BMC Public Health* 7: 288

²¹ Guy Coffey, Ida Kaplan, Robyn Sampson and Maria Montagna Tucci (2010) “The meaning and mental health consequences of long-term immigration detention for people seeking asylum” *Social Science and Medicine*, 70 (12) June, 2070-2079

²² Katy Robjant, Rita Hassan and Cornelius Katona (2009) “Mental health implications of detaining asylum seekers: systematic review” *British Journal of Psychiatry*, 194: 306-312

also “lingering effects of the detention experience”.²³ It seems clear that the more adverse the experience in detention, and the greater the problems encountered, the more significant those lingering adverse effects will be.

Australian researchers in this field are starting to collect data on recovery patterns from trauma for those released from detention. This work will compare those who recover to those who do not, to try to improve understanding of the vulnerability and other factors which contribute to a lack of resolution of trauma related symptoms. Researchers advise there are no published data on this issue as yet.

Certainly, long-term impacts of adverse experience have been documented in other areas. For one example, in a recent overview of youth unemployment, *The Economist* noted research from the United States and Britain that:

Youth unemployment leaves a “wage scar” that can persist into middle age. The longer the period of unemployment, the bigger the effect. Take two men with the same education, literacy and numeracy scores, places of residence, parents’ education and IQ. If one of them spends a year unemployed before the age of 23, ten years later he can expect to earn 23% less than the other. For women, the gap is 16%. The penalty persists, though it shrinks; at 42 it is 12% for women and 15% for men.²⁴

This wage scarring involved a number of elements, including poor confidence, reduced ambition, and limited access to opportunities for training and career progression. As *The Economist* noted, other studies have indicated links to deteriorating long-term health outcomes as well.

Some reports and anecdotal evidence cited in this report indicate ongoing mental health impacts from extended detention after release. Such impacts seem highly likely, both from the extent of mental health problems associated with long-term detention, and from the other evidence of long-term scarring from adverse experience.

The remainder of this report outlines a way of assessing the levels of associated healthcare costs. The next section introduces a mechanism for calculating these costs.

²³ Physicians for Human Rights et al *From Persecution to Prison* p56, 63

²⁴ “The jobless young: Left behind” *The Economist* 10 September 2011, p68

3. Calculating Lifetime Health Costs

Australia's Migration Regulations include specific attention to the health status of people who want to migrate permanently or stay in Australia temporarily.

The Department's *Fact Sheet*²⁵ argues the health requirement is designed to:

- Minimise public health and safety risks to the Australian community (which enjoys “some of the best health standards in the world”).
- Contain public expenditure on health and community services, including Australian social security benefits, allowances and pensions; and
- Maintain access of Australian residents to health and other community services.

The only specific illness mentioned in migration legislation as precluding the grant of a visa is tuberculosis (though applicants are given the opportunity to undergo treatment in most cases). “Other health conditions are assessed on the potential cost and impact on the Australian community resulting from the possible use of health and community services.” Departmental documents also make specific mention of hepatitis, HIV/AIDS and obesity, with the latter relating to medical conditions such as diabetes, heart disease (including hypertension) and arthritis.

The migration process thus already has an institutionalised concern about the long-term health costs of medical conditions. This report extends this concern to consider long-term impacts of mental trauma.

In principle, the way to calculate the long-term health costs of mental trauma is to compare the health costs for two people, one of whom suffers from such trauma while the other is more fortunate, and does not.

However, individuals' health experience – and related costs – vary with a wide variety of factors, including genetic predispositions, lifestyle and accidents. These complicate any comparison between individuals. The starting point therefore has to be comparing effects on different groups of people for whom average costs can be assessed.

The basic data for such calculations are average healthcare costs across the population. Australia's national health and welfare statistics and information agency, the Australian Institute of Health and Welfare (AIHW), compiles these figures each year. In 2008–09, total expenditure on healthcare in Australia was \$113 billion, or \$5,190 each per head of

²⁵ Department of Immigration and Citizenship *Fact Sheet 22 – The Health Requirement* available from www.immi.gov.au/media/fact-sheets/22health.htm. See also form 1071i “Health requirement for permanent entry to Australia”

population. Over the five years 2003–04 to 2008–09, this cost per head increased by an average 7.2% each year.²⁶

The amount and cost of healthcare vary with age. 20-year-olds typically have many fewer trips to the doctor or hospital than do 80-year-olds. So 20-year-olds have average health expenditure considerably lower than \$5,190 each year, while 80-year-olds, again on average, spend much more than this.

Estimating long-term health costs requires some incorporation of such age differentials. However, detailed statistics on age-related expenditure are not available for Australia – in particular, the AIHW does not calculate such data.²⁷

Some international evidence is available, and has produced somewhat surprising results. A 2003 US study found that the cost of caring for people between the age of 70 and their death was roughly the same, regardless of how long they lived. Less healthy people lived for a shorter time beyond 70, but ran up higher annual care costs, while healthier people lived longer at a lower annual cost.²⁸

A comprehensive approach has been pioneered by the National Institute for Public Health & the Environment in the Netherlands (RIVM – from the Dutch title for the Institute).

Researchers in RIVM have developed a ‘Chronic Disease model’. This has estimates of the per capita annual healthcare expenditure for 107 selected diseases and health problem areas.²⁹ This data has been combined with well-established links in the scientific literature between known risk factors (smoking, obesity, alcohol, etc) and adverse outcomes (morbidity and mortality for illnesses like diabetes, lung cancer, heart disease). Together, the data allows calculations of outcomes like life expectancy and cost of illness for cohorts with different prevalences of the risk factors. The model

²⁶ Australian Institute of Health and Welfare (2010) *Health expenditure Australia 2008–09* Health and welfare expenditure series no. 42, Canberra: AIHW, December, p14 Table 2

²⁷ Personal email to author from Ms Gail Brien, Head, Expenditure and Economics Unit, AIHW, 18 May 2011

²⁸ J. Lubitz et al., (2003) “Health, life expectancy, and healthcare spending among the elderly – Three decades of healthcare use by the elderly, 1965- 1998” *New England Journal of Medicine*, 2003; 349 (11): 1048-55. This paper was cited by RIVM *Care for Health* p193. In terms of the below discussion about lifetime health costs, it should be noted that these costs are calculated only from age 70. Most people dying at age 71 will have been less healthy, and had significantly higher health costs prior to age 70, than people who live for another 20 years after age 70.

²⁹ A web-based calculator is available at <http://oldwww.bmg.eur.nl/personal/vanbaal/paid.htm>. This tool for cost studies allows discrimination between the costs of different diseases, and also between the last year of life and other life years.

has been extensively used in the Netherlands to gauge the effects of different health policies prior to implementation.³⁰

A recent Dutch study compared lifetime health costs for three groups of people: a cohort of obese people aged 20, a similar cohort of smokers, and a cohort of "healthy-living" persons (defined as non-smokers with body mass index between 18.5 and 25³¹). The study estimated lifetime health-care costs for each group, looking both at morbidity (the likelihood of becoming ill each year) and mortality (the chance of dying).³²

One of the strengths of the RIVM approach is that it looks at the total health of people within each cohort – for the smoking cohort for example, it assessed not only the directly smoking-related conditions, but all health conditions of that cohort.

The study found, as illustrated in Chart 2 below, that both the obese and smoking cohorts had higher annual health costs than the healthy living group. Until age 56, annual health expenditure was highest for obese people, while at older ages, smokers incurred higher costs. However, because of differences in life expectancy, Table 3 shows that lifetime health expenditure was highest among healthy-living people and lowest for smokers. Obese individuals held an intermediate position.

Table 3.
Estimated life expectancies and lifetime healthcare costs
for three lifestyle cohorts, Netherlands

	'Healthy living' cohort	Obese cohort	Smoking cohort
Remaining life expectancy at age 20 (years)	64.4	59.9	57.4
Expected remaining lifetime healthcare costs at age 20 (in € 000)	281	250	220

Note: this table, and the charts below, use the Dutch national health accounts cost definitions. See Appendix

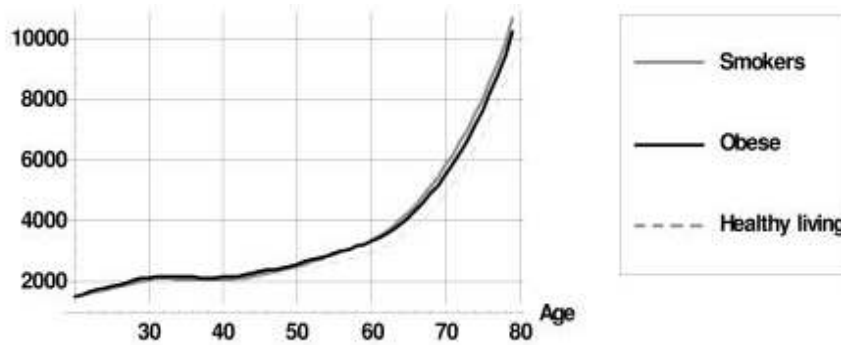
³⁰ Personal email to the author from Mr Lany Slobbe, Project Manager Dutch Cost of Illness Study, RIVM, 23 May 2011

³¹ The body mass index is now the standard method for assessing weight conditions. Based on dividing a person's weight in kgs by the square of their height in metres, it gives four categories: underweight (a BMI of less than 18.5); healthy weight (18.5 to 25); overweight (25 to 30) and obese (BMI of more than 30)

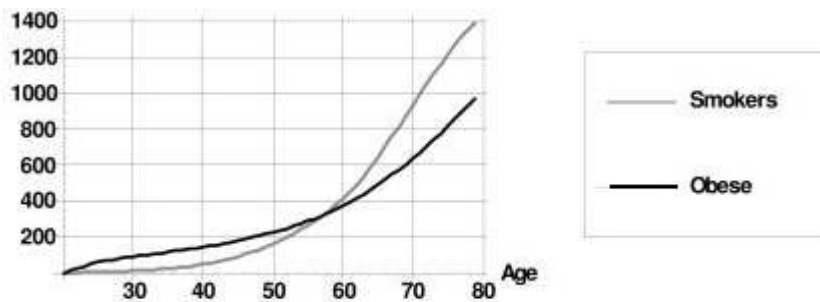
³² Pieter H van Baal et al., (2008) "Lifetime medical costs of obesity: prevention no cure for increasing health expenditure." *PLoS Med* Feb;5(2):e29, available from www.ncbi.nlm.nih.gov/pmc/articles/PMC2225430/?tool=pubmed

Chart 2. Annual healthcare costs by age for cohorts of ‘healthy living’, smokers and obese.

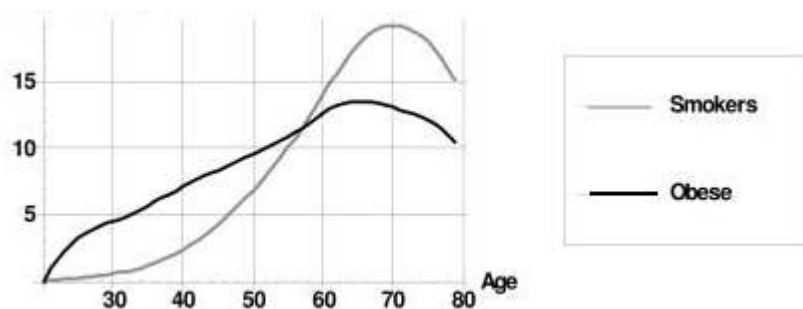
A. Average per person annual healthcare costs by age, in €



B. Additional average annual costs compared to healthy living cohort, in €



C. Additional average annual costs compared to healthy living cohort, %



Source (for Table 3 and Chart 2): Pieter H van Baal et al, (2008) “Lifetime medical costs of obesity: prevention no cure for increasing health expenditure.” *PLoS Med* Feb;5(2):e29, Table 1 and Figure 1 www.ncbi.nlm.nih.gov/pmc/articles/PMC2225430/?tool=pubmed

Chart 2 tracks the annual average health costs for each cohort, and gives comparisons with the healthy living cohort in both the additional costs in euros and as a percentage of the base cohort. Overall, and excluding the (expensive) final year of life, both smokers and the obese had annual per capita costs averaging 10% more than the healthy living cohort. However, because the healthy cohort lived longer, their total lifetime health costs were greater than those for the other two groups. The comparison between such

cohorts thus rests on the effects on costs of both morbidity (affecting annual costs) and mortality (affecting life expectancy).

RIVM has also used the model for other health analyses, including assessing the effectiveness of education campaigns to reduce alcohol and obesity.³³

A key foundation for the RIVM model is the estimation of health costs for each year of age. The technical aspects of these are discussed in the Appendix, which also applies regression analysis to derive appropriate figures based on the overall Australian total of \$5,190 each per year on healthcare. These estimated annual costs are shown in Table 4.

Table 4.
Estimated annual per capita average healthcare costs for Australia
at each age of life

Age	Ratio	Annual cost
0	1.60	\$8,263
10	0.47	\$2,449
20	0.52	\$2,661
30	0.59	\$3,033
40	0.71	\$3,687
50	0.94	\$4,838
60	1.33	\$6,860
70	2.02	\$10,414
80	3.23	\$16,661
90	5.35	\$27,641
Average		\$5,190

Source: Based on the Dutch patterns, applied to the overall Australian data. Estimation details are discussed in the Appendix.

Table 4 provides cost estimates for widely-known patterns. In the first year of life, children have higher than average costs – due to the costs associated with difficult births. Older children and young adults have average health costs of around half the national per capita average. After age 24, costs start to increase, with adults in their 50s having, on average, health costs at about the overall average. Older people have significantly higher healthcare costs, especially in the 85+ age group.

³³ L. Tariq, M. van den Berg, RT Hoogenveen, PHM van Baal (2009) “Cost-Effectiveness of an Opportunistic Screening Programme and Brief Intervention for Excessive Alcohol Use in Primary Care” *PLoS ONE* 4(5): e5696. doi:10.1371/journal.pone.0005696, available from <http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0005696>, and Pieter H.M. van Baal et al., (2008) “Cost-Effectiveness of a Low-Calorie Diet and Orlistat for Obese Persons: Modeling Long-Term Health Gains through Prevention of Obesity-Related Chronic Diseases” *Value in Health* Volume 11, Issue 7, December pp 1103-1040

These age-specific health costs were then applied to the current Australian life tables,³⁴ to give forecasts of lifetime health costs for people currently alive. For infants, with an average life expectancy of 81.5 years, lifetime health costs in 2011 dollars are forecast at \$527,000. For young adults aged 20, with a further life expectancy of 64 years, remaining lifetime health costs are forecast to be \$472,000.

It is usual in calculating such long-term costs to apply a discount to future costs, recognising that a dollar in 10 years' time is worth less than a current dollar. As over two-thirds of total health expenditure in Australia is funded by government,³⁵ an appropriate discount rate is the long-term Government bond rate, which has averaged some 5.5% over the past five years.³⁶

However, any consideration of long-term costs also has to recognise that health costs have been growing at a faster rate than overall national expenditure. Over the ten years 1998–99 to 2008–09, nominal per capita health costs grew at an annual rate of 7.3%.³⁷ This growth rate is actually higher than the discount rate which would be applied. It is therefore considered appropriate to use the current dollar calculations, rather than attempt any discounting. It should be noted that this means the total lifetime costs tend to be conservative estimates.

Beyond the overall calculation of health costs, the model can also be used to assess costs with changes in morbidity (modeled as a standard % increase up or down in annual health costs for each year of life) and mortality (modeled as a standard % increase up or down in the survivor rate for each year of life). These results are shown in table 5, with the highlighted numbers in each table giving the forecast lifetime health costs for standard or average mortality and morbidity. The sensitivity analysis shows:

- If the morbidity factor is held constant, any increase in the mortality rate will decrease lifetime health costs, due to a shorter life expectancy. Thus, at the standard morbidity rates, an increase in mortality by 10% (e.g. from a mortality factor of 1.0 to 1.1) will reduce lifetime costs by some \$20,000 (in the table, from \$527,000 to \$508,000).
- If the mortality factor is held constant, an increase in morbidity will increase lifetime health costs, due to higher costs of treatment for each year of life. Thus, at the standard mortality rates, an increase in morbidity of 10% will increase lifetime health costs also by 10%. For example, an increase in morbidity from

³⁴ Australian Bureau of Statistics Life Tables, Australia, 2006–2008 (catalogue 3302.0, December 2009) Table 1

³⁵ AIHW (2010) Australia's health 2010 Australia's health series no. 12. Cat. no. AUS 122. Canberra: AIHW, p9

³⁶ Sourced from the Reserve Bank of Australia website www.rba.gov.au

³⁷ AIHW Health expenditure *Australia 2008–09*, p15

1.0 to 1.1, at standard mortality, will increase total costs from \$527,000 to \$579,000.

Table 5.
Forecast Australian Lifetime health costs, in \$A

The highlighted numbers in each table (in italics and bold) give the forecast lifetime health costs for average mortality and morbidity (i.e. with mortality and morbidity figures each set at 1.0)

A. at age 0

		Mortality factor				
		0.75	0.9	1.0	1.1	1.25
Morbidity (cost) factor	0.75	439,000	411,000	395,000	381,000	363,000
	0.9	527,000	493,000	474,000	457,000	435,000
	1.0	585,000	548,000	527,000	508,000	484,000
	1.1	644,000	602,000	579,000	559,000	532,000
	1.25	731,000	685,000	658,000	635,000	605,000

B. at age 20

		Mortality factor				
		0.75	0.9	1.0	1.1	1.25
Morbidity (cost) factor	0.75	398,000	370,000	354,000	340,000	322,000
	0.9	477,000	444,000	425,000	408,000	387,000
	1.0	530,000	493,000	472,000	453,000	429,000
	1.1	583,000	542,000	519,000	499,000	472,000
	1.25	663,000	616,000	590,000	567,000	536,000

Source: Sensitivity analysis applied to life table and health cost data.

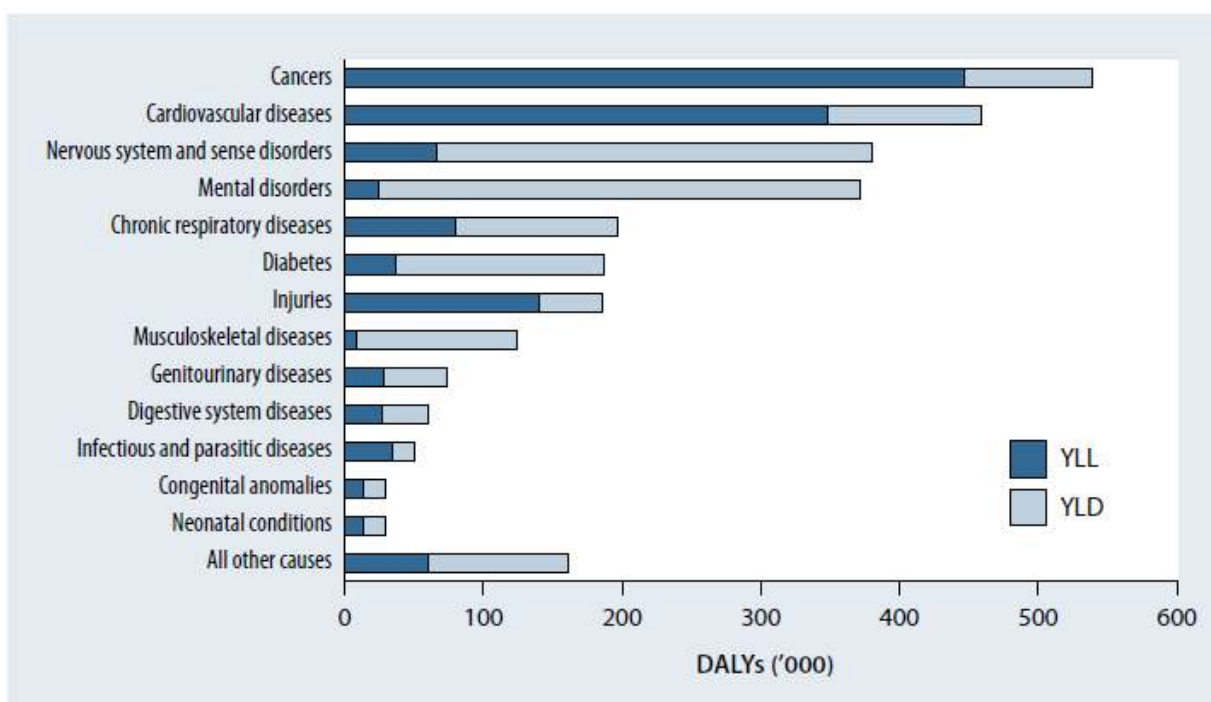
As indicated in Table 5, the outcome in total lifetime health costs depends both on morbidity and mortality. The Dutch study on smoking and obesity suggests for those two areas that the mortality impact (reducing lifetime costs) is stronger than the morbidity factor. This finding is supported by other data from the Australian Institute of Health and Welfare.

The AIHW assesses the impact of various diseases and conditions, using the concept of Disability-adjusted life years (DALYs).³⁸ One DALY is one year of 'healthy life' lost due to a disease or injury. It combines data on early deaths due to disease or injury with data on the severity of diseases and injuries, interrupting people's ability to enjoy life. Chart 3 ranks the most significant causes of DALYs in Australia.

³⁸ AIHW Australia's health 2010 p55-57

Chart 3.
Projected burden of major disease groups, 2010

This chart presents the impact of each disease group, measured in the number of years across the Australian population which that disease subtracts from a normal healthy span – either through premature death or restrictions on enjoyable living through disability.



Source: AIHW *Australia's health 2010* p57, figure 2.16, sourced from the AIHW Burden of Disease database.

Notes: DALY denotes disability-adjusted life years, YLL Years of life lost due to death, and YLD Years of life lost due to disability.

Mental disorders are the fourth largest contributor to DALYs in Australia, behind cancers, cardiovascular diseases and nervous system and sense disorders. Further, the balance between the contributions of mortality and morbidity differs between these disorders. For cancers and cardiovascular diseases the majority of DALYs were due to early deaths, whereas disability was the main contributor to DALYs for nervous system and sense disorders, and mental disorders.

4. Applying the data to mental health costs

The above discussion has referred to studies using the RIVM model to calculate costs for conditions such as smoking, obesity and alcohol-related illnesses. However, RIVM has not undertaken a comparable calculation for mental illness. The reason for this is the

absence of the well-established links in the scientific literature between known risk factors (smoking, obesity etc) and adverse outcomes (morbidity and mortality for illnesses like diabetes, lung cancer, heart disease). While some work has been done on alcohol-related problems, it is very hard to quantify the link between risk factors for instance of depression and impacts on morbidity and mortality.³⁹

The RIVM material does have data on the level of mental health costs in overall costs. This is shown in Table 6.

Table 6.
Annual per capita total Dutch healthcare costs and mental health costs
(in € euros) by age

Age	All diseases and conditions	Mental health-related	
		Cost	% of total
0	7,694	45	0.6%
1 -14	2,525	257	10.2%
15-24	2,253	611	27.1%
25-44	2,883	841	29.2%
45-64	3,756	804	21.4%
65-74	6,496	855	13.2%
75-84	12,900	2,310	17.9%
85+	29,172	7,806	26.8%
Overall average	4,196	871	20.8%

Source: RIVM cost of disease calculator (PAID 1.0), available from <http://oldwww.bmg.eur.nl/personal/vanbaal/paid.htm>. This tool uses the Dutch health accounts definition, and the above data is for 2005 (the 'all diseases' column is the same as column 4 in Table 3 above).

Table 6 shows that, while varying somewhat with age, mental-health-related problems make up a significant 20% of overall lifetime health costs. This significance is consistent with the Australian evidence noted above that mental disorders are the fourth largest contributor to DALYs in Australia.⁴⁰

These results can be applied to a discussion of the impact of extended detention on healthcare costs. Section 2 of this paper has demonstrated that extended detention does indeed have significant adverse effects on the mental health of asylum seekers. Tables 5 and 6 give some parameters to discuss the cost impacts of these effects. At this stage, the discussion can only suggest possibilities for these cost impacts. It is intended that by

³⁹ Personal email to the author from Mr Lany Slobbe, Project Manager Dutch Cost of Illness Study, RIVM, 23 May 2011

⁴⁰ For an overview of mental health issues in Australia, see AIHW *Australia's health 2010* p33-36, and Section 4.5

establishing the parameters, the report will give a useful framework for subsequent revision and discussion.

Section 2 and especially Chart 1 documented that long-term detainees suffer mental health problems at rates several times higher than short-term detainees. From this and the evidence of long-term impacts, it is possible to make a conservative assumption that extended detention increases lifetime mental health costs by at least 50%. From Table 6, this would increase overall total lifetime healthcare costs by some 10%.⁴¹

The discussion in Section 3 indicated that a significant increase in annual health costs is also likely to be associated with an increase in mortality rates. Forecasting lifetime costs needs to take both factors into account.

Part B of Table 5 forecast remaining lifetime health costs at age 20, with a projected cost of \$472,000 for an ‘average’ person with average morbidity and mortality. Asylum seekers arriving in Australia typically have a range of characteristics that give health outcomes both better and worse than the Australian average:

- As outlined in Section 2, they have frequently suffered trauma prior to arriving in Australia, and have had various disruptive experiences. These tend to increase lifetime health costs.
- Most recent asylum seekers are from cultures with low alcohol consumption, and appear to suffer less frequently from obesity than the Australian average. As indicated in the discussion in Section 3, both these characteristics tend to reduce lifetime health costs.

A reasonable starting point then is the average forecast for healthcare costs, at \$472,000. Two possible scenarios are:

- Strongly adverse mental health problems due to extended detention. These could involve increasing both morbidity and mortality rates by 10%.⁴² In part B of table 5 above, this would give a forecast of remaining lifetime healthcare costs of \$499,000, \$27,000 greater than the average figure.
- Less strong mental health problems, with morbidity costs increasing by 5% but with minimal changes in mortality. This would increase overall healthcare costs by the 5%, or from \$472,000 to \$496,000, an increase of \$24,000.

⁴¹ Note that this only allows for costs associated with mental health conditions. It is likely that people suffering from depression, for example, will have less general physical resilience, and greater propensity to suffer also from other medical complaints. As noted above, the RIVM study looked at *all* health costs for the obese and smoking cohorts.

⁴² The AIHW discussion of DALYs indicated that mental health issues have much stronger effects on morbidity than they do on mortality, so this scenario has an unlikely high mortality rate. Nonetheless, it is useful to indicate some parameters for the discussion.

These two scenarios both give increases in lifetime health costs of around \$25,000. It should be noted that this result is not strongly affected by the starting point assumption of ‘average’ forecast lifetime costs. The sensitivity analysis indicates that whatever initial combination of morbidity and mortality is chosen, the above two scenarios will produce similar comparative changes in lifetime costs.

Section 2 above calculated that six months of additional detention would cost the Government some \$20,000 more than community support. These figures suggest that the additional long-term health costs of extended detention are likely to be in the same order.

5. Conclusion

*We don't feel [we can] completely cope with this society because of the past. [In detention] they hurt us, they humiliated us, and they punished us. They made us very small and worse than anyone. All this sad feeling [from the past] shows us anyone could be an enemy; anyone could hurt you in the same way ... We lived in fear [in detention], and still it is same thing, still I feel the same thing.*⁴³

Numerous studies have demonstrated such adverse impacts of mandatory detention on the long-term mental health of asylum seekers. These impacts on mental health obviously have cost implications for healthcare systems – costs that have thus far not been assessed. This report suggests a mechanism for assessing these costs, using a model of lifetime healthcare costs. It started with overviews of both recent cost calculations for differing accommodation options for asylum seekers, and of several studies that have demonstrated the adverse long-term impacts of extended mandatory detention on the mental health of asylum seekers. The report then discussed the innovative methodology for calculating lifetime health costs developed by the RIVM in the Netherlands. The RIVM methodology was applied to Australian health costs and life tables to calculate lifetime health costs here. The approach and sensitivity analysis allows the calculation of differential health costs for different assumptions for morbidity and mortality.

There are many acknowledged uncertainties in the calculations. Nonetheless, the report demonstrates that, on plausible assumptions, adverse experiences in extended detention could add some \$25,000 to the average lifetime health costs for each successful asylum seeker. The proposed model provides a framework for further discussion and refinement of these cost estimates.

⁴³ Coffey et al “Meaning and mental health consequences” *Social Science and Medicine* 70 (12) June, 2070-2079

Other studies have documented that alternatives to detention are considerably cheaper in terms of direct costs for processing asylum seekers' claims. This report reinforces these cost arguments by showing that the Australian Government can save long-term health costs of a similar magnitude by minimising the length of time spent in detention.

As noted in Section 3, the Australian immigration system already has extensive health checks for migrants seeking to come to this country. One of the key reasons is to protect public expenditure on health and community services.

This report finds it strange that another current element in current immigration policy – mandatory detention of asylum seekers – has the direct effect of increasing public expenditure on health and community services.

Technical Appendix: Applying the Dutch Model of Age-Specific Health Costs to Australia

This Appendix gives the technical background to the calculation of the Australian health costs for each age of life shown in Table 4 above. Table A1 shows the RIVM estimates for annual average healthcare costs in the Netherlands for each age range.

Table A1.
Annual Dutch health costs at each year of age compared to the overall national per capita average

Age range	Ratio to average	Detailed annual Dutch health costs (in € Euros) on two costing approaches			
		OECD System Accounts		Dutch Health accounts	
		2003	2005	2003	2005
0	1.61	3,712	4,621	6,344	7,694
1-14	0.46	839	1,010	2,224	2,525
15-24	0.52	1,321	1,521	2,053	2,253
25-44	0.71	1,950	2,136	2,676	2,883
45-64	0.95	2,692	2,955	3,492	3,756
65-74	1.72	5,074	5,309	6,297	6,496
75-84	3.23	9,121	9,294	12,819	12,900
85+	6.50	16,365	16,307	28,816	29,172
Overall average		2,679	2,922	3,910	4,196

Source: RIVM website, http://www.kostenvanziekten.nl/kvz2005/cijfers/start-tabellen-grafieken-volgens-zorgrekeningen/Default.aspx?ref=kvz_v211b1p4r1c7i0t2j0o2y0a-1g0d254s54z0f0w2

Note: The average ratio figure gives the average of each age cohort's cost divided by the overall total average cost for that year and definition.

Note: the two series, the OECD SHA series and the Dutch national health accounts series, are based on different definitions. The Dutch figures include for example medical-related housing and social services costs, which are not included in the OECD SHA definition.⁴⁴ The AIHW cost figures cited above are close to the OECD SHA definition.⁴⁵

While there are some variations from year to year, and due to differences in definition, Table A1 shows a strong pattern. This is summarised in the first column of the table,

⁴⁴ personal email to author from Mr Lany Slobbe, Project Manager Dutch Cost of Illness Study, Center for Public Health Forecasting, Dutch Institute for Public Health and the Environment (RIVM) 19 May 2011

⁴⁵ See AIHW *Health expenditure Australia 2008–09* p1, which states “The AIHW has incorporated the SHA framework into its database and reports to the OECD each year using that framework. It is also moving to develop a new Australian system of health accounts, which will comply with those international standards.”

which gives the average annual cost for each age group, as a ratio to the overall average cost (in the bottom row of the table). Higher than average costs occur in the first year of life, with the overall average cost increased due to more complicated birth deliveries. Children and young adults have average health costs of around half the national per capita average. After age 24, costs start to increase, with adults in their 50s having, on average, health costs at about the overall average. Older people have significantly higher healthcare costs, especially in the 85+ age group.

RIVM has used this modelling in a number of areas. It features in the overall report on health in the Netherlands *Care for Health*.⁴⁶ It is also the basis for some path-breaking research on the costs of healthcare for different groups in the population, and for two web-based calculators.

The Dutch model provides a methodology to do this – but this methodology must be applied to Australian conditions. This section undertakes this task.

As noted above, Australians spend a total of \$5,190 each per year on healthcare. However, detailed breakdowns of this expenditure by age groups are not available.

This section calculates age profile health costs for Australia, based on the Dutch model. Table 3 above gave the ratios of each age group's expenditure compared to the overall average. Regression techniques were used to estimate the ratio at each year of age:

$$\text{Annual relative cost at age}_x = 0.42 + 0.0308 e^{0.0564 * \text{age } x}, R^2 = 0.9892$$

As the very high R^2 statistic indicates⁴⁷, this equation estimated costs at each age of life extremely well. In applying it to Australian data two adjustments were made, based on the data in table 3:

- The first year of life was given a factor of 1.60, and
- The costs were capped at a factor of 6.5. This cap reflects the pattern in the Dutch data that, beyond a certain age, costs in the final year of life decline slightly. This control only applies to ages above 94, so does not affect many people, nor have much impact on total lifetime health costs.

This equation was used to calculate health costs for each age. The resultant age and cost data were compared to the current Australian age profile to ensure the overall average cost of health came to the \$5,190 per head figure from AIHW. They produced the results in Table A2, which are replicated in Table 4 in the text above.

⁴⁶ RIVM (2007) *Care for Health: The 2006 Dutch Public Health Status and Forecasts Report*, available from www.rivm.nl, especially pp189-194

⁴⁷ R^2 statistics used in regression analysis range between 0.0 (no relationship between two variables) and 1.0 (the two variables show identical patterns). 0.9892 is an extremely high result in this range.

Table A2.
Estimated annual per capita average healthcare costs for Australia
at each age of life

Age	Ratio	Annual cost
0	1.60	\$8,263
10	0.47	\$2,449
20	0.52	\$2,661
30	0.59	\$3,033
40	0.71	\$3,687
50	0.94	\$4,838
60	1.33	\$6,860
70	2.02	\$10,414
80	3.23	\$16,661
90	5.35	\$27,641
Average		\$5,190

Source: Ratio from regression equation in text above, based on Dutch data in table 3. Annual cost calculated from these ratios, and applied to population numbers taken from Australian Bureau of Statistics *Australian Demographic Statistics, Estimated residential population June 2010*, (catalogue 3101.0, September 2010) Table 59 Estimated Resident Population By Single Year of Age, Australia. The total expenditures at each age sum to the total AIHW health expenditure figure, giving the overall average per person cost at \$5,190.

Note: the average of \$5,190 is total health expenditure divided by the entire population; effectively, it is a population-weighted average of the above figures for each year of age.

References

Australian Bureau of Statistics (2009) *Life Tables, Australia, 2006–2008* (catalogue 3302.0, December)

Australian Bureau of Statistics (2010) *Australian Demographic Statistics, Estimated residential population June 2010*, (catalogue 3101.0, September)

Australian Institute of Health and Welfare (AIHW) (2010) *Australia's health 2010* Australia's health series no. 12. Cat. no. AUS 122. Canberra: AIHW

AIHW (2010) *Health expenditure Australia 2008–09* Health and welfare expenditure series no. 42, Canberra: AIHW, December

Bem, Kazimierz, with Nina Field, Nic Maclellan, Sarah Meyer, Tony Morris (2007) *A price too high: the cost of Australia's approach to asylum seekers* Melbourne: A Just Australia, Oxfam Australia and Oxfam Novib, August

Coffey, Guy, with Ida Kaplan, Robyn Sampson and Maria Montagna Tucci (2010) "The meaning and mental health consequences of long-term immigration detention for people seeking asylum" *Social Science and Medicine* 70 (12) June, 2070-2079

Department of Immigration and Citizenship (2011) *Fact Sheet 22 – The Health Requirement* available from www.immi.gov.au/media/fact-sheets/22health.htm. See also form 1071i "Health requirement for permanent entry to Australia"

Economist "The jobless young: Left behind" 10 September 2011, p68

Edwards, Alice (2011) *Back to Basics: The Right to Liberty and Security of Person and 'Alternatives to Detention' of Refugees, Asylum-Seekers, Stateless Persons and Other Migrants* UN High Commission for Refugees (UNHCR) Legal and Protection Policy Research Series No 17, April

Green, Janette P, and Kathy Eagar (2010) "The health of people in Australian immigration detention centres" *Medical Journal of Australia* 192 (2): 65-70

Hallas P, with Hansen AR, Staehr MA, et al (2007) "Length of stay in asylum centres and mental health in asylum seekers: a retrospective study from Denmark." *BMC Public Health* 7: 288

Human Rights and Equal Opportunity Commission (HREOC) (2004) *A last resort? Report of the National Inquiry into Children in Immigration Detention* Canberra, May

Lubitz, J. et al (2003) “Health, life expectancy, and healthcare spending among the elderly – Three decades of healthcare use by the elderly, 1965- 1998” *New England Journal of Medicine*, 2003; 349 (11): 1048-55

Menadue, John (2011) “Counting the cost of immigration detention” ABC on-line 17 May 2011 <http://www.abc.net.au/unleashed/2693018.html>

Milbur Consulting (2003) *Improving outcomes and reducing costs for asylum seekers* Melbourne: Justice for Asylum Seekers Network.

Netherlands National Institute for Public Health and the Environment (RIVM – from the Dutch title for the Institute) (2007) *Care for Health: The 2006 Dutch Public Health Status and Forecasts Report*, available from www.rivm.nl

Physicians for Human Rights and the Bellevue/NYU Program for Survivors of Torture (2003), *From Persecution to Prison: The Health Consequences of Detention for Asylum Seekers*, Boston and New York City, June

Robjant, Katy, with Rita Hassan and Cornelius Katona (2009) “Mental health implications of detaining asylum seekers: systematic review” *British Journal of Psychiatry* 194: 306-312

Sampson, R, with Mitchell, G. and Bowring, L. (2011) *There are Alternatives: A handbook for preventing unnecessary immigration detention*. Melbourne: The International Detention Coalition and La Trobe Refugee Research

Tariq, L with M. van den Berg, RT Hoogenveen, PHM van Baal (2009) “Cost-Effectiveness of an Opportunistic Screening Programme and Brief Intervention for Excessive Alcohol Use in Primary Care” *PLoS ONE* 4(5): e5696.
doi:10.1371/journal.pone.0005696, available from
<http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0005696>

van Baal, Pieter H, et al (2008) “Lifetime medical costs of obesity: prevention no cure for increasing health expenditure.” *PLoS Med* Feb;5(2):e29, available from www.ncbi.nlm.nih.gov/pmc/articles/PMC2225430/?tool=pubmed

van Baal, Pieter H, et al (2008) “Cost-Effectiveness of a Low-Calorie Diet and Orlistat for Obese Persons: Modeling Long-Term Health Gains through Prevention of Obesity-Related Chronic Diseases” *Value in Health* Volume 11, Issue 7, December pp 1103-1040