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# **The Impact of Detention on the Health of Asylum Seekers: A Systematic Review**

Trine Filges, Edith Montgomery, Marianne Kastrup,  
Anne Marie Klint Jørgensen



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# Colophon

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# Executive summary/Abstract

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## BACKGROUND

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The last decades of the twentieth century were accompanied by an upsurge in the number of persons fleeing persecution and regional wars. Western countries have applied increasingly stringent measures to discourage those seeking asylum from entering their country. The most controversial of the measures to discourage people from seeking asylum is the decision by some Western countries to confine asylum seekers in detention facilities. In most countries, the detention of asylum seekers is an administrative procedure that is undertaken to verify the identity of individuals, process asylum claims, and/or ensure that a deportation order is carried out.

A number of clinicians have expressed concern that detention increases mental health difficulties in asylum seekers, who is already a highly traumatized population, and have called for an end to such practices. This is clearly in conflict with government policies aimed at reducing the numbers of asylum seekers.

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## OBJECTIVES

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The main objective of this review is to assess evidence about the effects of detention on the mental and physical health and social functioning of asylum seekers.

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## SEARCH STRATEGY

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Relevant studies were identified through electronic searches of bibliographic databases, internet search engines and hand searching of core journals. Searches were carried out to November 2013. We searched to identify both published and unpublished literature. The searches were international in scope. Reference lists of included studies and relevant reviews were also searched.

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## SELECTION CRITERIA

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All study designs that used a well-defined control group were eligible for inclusion. Studies that utilized qualitative approaches were not included.

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## DATA COLLECTION AND ANALYSIS

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The total number of potential relevant studies constituted 11,376 hits. A total of nine studies, consisting of 12 papers, met the inclusion criteria and were critically appraised by the review authors. The final selection comprised nine studies from four different countries.

Two studies reported on the same sample of asylum seekers in Australia at different time points after release. The nine studies thus analysed eight different asylum populations. Six studies (all analysing asylum seekers in Australia) could not be used in the data synthesis as they were judged to have too high risk of bias on the confounding item. Three studies were therefore included in the data synthesis.

Meta-analysis was used to examine the effects of detention on post-traumatic stress disorder (PTSD), depression and anxiety while the asylum seekers were still detained. Random effects models were used to pool data across the studies using the standardised mean difference. Pooled estimates were weighted using inverse variance methods, and 95% confidence intervals were estimated. It was not possible to perform a meta-analysis after release as only one study providing data after release was included in the data synthesis.

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## RESULTS

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Two studies provided data while the asylum seekers were still detained, and one study provided data less than a year after release. The total number of participants in these three studies was 359. We performed analyses separately for these time points. All outcomes were measured such that a negative effect size favours the detained asylum seekers, i.e. when an effect size is *negative* the detained asylum seekers are better off than comparison groups of non-detained asylum seekers. The three studies used in the data synthesis were all non randomised studies and only one of them was judged to be of some concern on the confounding item of the risk of bias tool.

Primary study effect sizes for PTSD, depression and anxiety while the asylum seekers were still detained lies in the range 0.35 to 0.99, all favouring the non-detained asylum group. The weighted average effect sizes for PTSD and anxiety are of a magnitude which may be characterised as being of clinical importance: 0.45 [95% CI 0.19, 0.71] and 0.42 [95% CI 0.18, 0.66]. The weighted average effect size for depression is of an even higher magnitude: 0.68 [95% CI 0.10, 1.26].

All effects favour the non-detained; i.e. there is an adverse effect of detention on mental health. The magnitude of the pooled estimates should however be interpreted with caution as they are based on two studies, and for depression there is some inconsistency in the magnitude of effect sizes between the two studies.

One study reported outcomes (PTSD, depression and anxiety) after release and the magnitude of the effect sizes were all of clinical importance: 0.59 [95% CI 0.02, 1.17], 0.60 [95% CI 0.02, 1.17] and 0.76 [95% CI 0.17, 1.34]; all favouring the non-detained asylum seekers.

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## **AUTHORS' CONCLUSIONS**

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There is some evidence to suggest an independent adverse effect of detention on the mental health of asylum seekers. All studies used in the data synthesis reported adverse effects on the detained asylum seekers' mental health, measured as PTSD, depression and anxiety. The magnitude of the effect sizes lay in a clinical important range despite the fact that the comparison groups used in the primary studies faced a range of similar post-migration adversities and had a more or less similar experience of prior traumatic events as the detained asylum seekers. Thus, the current evidence suggests an independent deterioration of the mental health due to detention of a group of people who are already highly traumatised.

Adverse effects on the mental health were found not only while the asylum seekers were detained, but also after release suggesting that the adverse mental health effect of detention may be prolonged, extending well beyond the point of release into the community.

The conclusions should however be interpreted with caution as they are based on only three studies. More research is needed in order to fully investigate the effect of detention on mental health. While additional research is needed, the review does, however, offer support to the view that the detention of already traumatised asylum seekers may have adverse effects on their mental health.



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# 1 Background

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## 1.1 DESCRIPTION OF THE CONDITION

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The last decades of the twentieth century were accompanied by an upsurge in the number of persons fleeing persecution and regional wars. The office of the United Nations High Commissioner for Refugees (UNHCR) has reported that 479,300 asylum applications were received by 44 industrialized countries<sup>1</sup> in 2012 (UNHCR, 2012). Eurostat provides statistics on the gender and age distribution of asylum seekers in EU, the most recent data being from January 2013 where males account for 66 per cent; children under 18 years, 26 per cent; those aged 18-34 years, 53 per cent; and those 35 years and older, 21 per cent<sup>2</sup>.

Western countries have applied increasingly stringent measures to discourage those seeking asylum from entering their countries (UNHCR, 2000; Human Rights Watch, 2001). There are various strategies aimed at deterring the influx of asylum seekers. These include confinement in detention centres, enforced dispersal within the community, more stringent refugee determination procedures, and temporary forms of asylum. In several countries, asylum seekers living in the community face restricted access to work, education, housing, welfare, and in some situations, to basic health care services (Silove, Steel & Watters, 2000).

The most controversial of the measures to discourage people from seeking asylum is the decision by some Western countries to confine asylum seekers in detention facilities (Loff, 2002; Summerfield, Gorst-Unsworth, Bracken, Tonge, Forrest & Hinshelwood, 1991). Many countries detain asylum seekers; however, Australia has been unique in establishing a policy of mandatory, indefinite detention. From 1992 to 2005, Australia implemented a policy of mandatory detention of all asylum seekers arriving by boat or without valid travel documents. This policy has been much criticised (Phillips & Spinks, 2011) and in November 2011, Australia changed

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<sup>1</sup> *These are: 27 Member States of the European Union, Albania, Bosnia and Herzegovina, Croatia, Iceland, Liechtenstein, Montenegro, Norway, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, and Turkey, as well as Australia, Canada, Japan, New Zealand, the Republic of Korea and the United States of America.*

<sup>2</sup> See <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>

its policy aimed at limiting the time asylum seekers are held in detention (Cleveland, Rousseau & Kronick, 2012). Recently the Australian government announced a policy in which any [asylum seeker](#) arriving by boat without a visa will be refused settlement in Australia, instead being settled in [Papua New Guinea](#) (PNG) if they are found to be legitimate refugees (Regional resettlement arrangement between Australia and Papua New Guinea, 2013). The UNHCR has expressed concern with the new policy, especially the lack of national capacity and expertise in processing, and poor physical conditions within open-ended, mandatory and arbitrary detention settings (UNHCR, 2013).

Since the events of 9/11, other countries such as the USA and the UK (Welch & Schuster, 2005; American Civil Liberties Union (ACLU), 2007) have expanded immigration detention facilities and the use of detention. A similar trend appears to have emerged in Canada (Nyers, 2003; Lacroix, 2006). In December 2012 Canada implemented changes to the refugee determination system inter alia implying that asylum seekers aged 16 or older and designated as part of an “irregular arrival” will be detained (Cleveland, Rousseau & Kronick, 2012; Canadian Council for Refugees, 2012). Furthermore, in a number of continental European countries, the use of detention has significantly increased and is often used as a first resort rather than last resort (Council of Europe, 2010).

Asylum seekers are detained at different stages of the asylum process. Detention is also used by most European countries to facilitate deportations (Schuster, 2004). Hence, recently arrived asylum seekers as well as asylum seekers whose appeals have not yet been heard are held in detention. In many European countries, deportation orders are issued concurrently with the initial rejection of the asylum claim (Schuster, 2004; Hughes & Liebaut, 1998).

There are no official statistics on how many asylum seekers are detained or for how long (Hughes & Liebaut, 1998; The Information Centre about Asylum and Refugees (ICAR), 2007).

A few countries do provide *some* information regarding number and duration of detention of asylum seekers, however. In Australia, immigration detention statistics are provided by the Department of Immigration and Citizenship. Here, the statistic is given as a monthly snapshot on a particular date as opposed to a general annual total. As of 31 May 2013 there were 8,521 persons in immigration detention facilities<sup>3</sup> of which 79 per cent were males and 18 per cent were children (less than 18 years of age). The average duration of detention is likewise given only as a snapshot, and calculated as the average length of time (so far) for persons held in detention at a particular date. Thus no statistics are published of the overall periods spent in detention by each detainee. The snapshot average length has decreased

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<sup>3</sup> Including alternative places of detention.

from 277 days in November<sup>4</sup> 2011 to 74 days as of 31 May 2013. In the UK, the Home Office provides statistics in quarterly snapshots. As of 30 September 2012 there were 3,091 immigrants in detention (excluding persons detained in police cells and in prison establishments<sup>5</sup>); of these, 56 per cent had claimed asylum, 89 per cent were males and none were children. The average duration is not provided and cannot be calculated but the median is approximately two weeks. The length of stay is not provided separately for immigrants who had sought asylum.

Little is known about why people are detained. There is no accessible legal framework governing the use of detention under either international human rights law or refugee law. According to the Council of Europe (2010), the national laws and regulations of many countries are insufficient and leave too much at the discretion of immigration officials. Detention policies are non-transparent, which may imply a certain degree of arbitrariness in the decision process (Council of Europe, 2010).

Since 1999, UNHCR Guidelines (UNHCR 1999c) have suggested considering the following as possible alternatives to detention monitoring requirements: provision of a guarantor/surety, release on bail, and open centres (JRS Europe policy). There are many ways in which these alternatives to detention are implemented in practice. JRS Europe<sup>6</sup> emphasises that the type of alternative to detention that a government uses must fit the country's particular context, and especially the needs of the migrants who are participating in that alternative (JRS Europe, 2012)

That the decision to detain is often arbitrary is also stated by the UNHCR: “In many States the decision to detain is taken on the basis of sometimes very wide discretionary powers, often not prescribed by law. Moreover, even when the grounds upon which such orders are made are established in law, these are far too frequently applied in an arbitrary manner,” (UNHCR, 1999a, p. 3).

Although UNHCR guidelines on the detention of asylum seekers include the right to an automatic independent judicial review of all decisions to detain followed by periodic reviews of the necessity to continue to detain, several member states do not comply with UNHCR’s guidelines on the detention of asylum seekers (Human Rights Watch, 2001; UNCHR, 2000).

There is, however, growing evidence that the detention of asylum seekers is associated with substantial mental health problems (Silove, Steel & Mollica, 2001; Fazel & Silove, 2006; Physicians for Human Rights and the Bellevue/NYU Program for Survivors of Torture, 2003). The Bellevue/NYU Program for Survivors of Torture

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<sup>4</sup> No exact date is reported.

<sup>5</sup> According to ICAR (2007) there were approximately 500 immigration detainees held in prisons whose whereabouts are often unknown and unrecorded in Home Office statistics in 2006

<sup>6</sup> Jesuit Refugee Service Europe

(Bellevue/NYU) and Physicians for Human Rights study reports that significant symptoms of depression were present in 86% of the detained asylum seekers; anxiety was present in 77% and post-traumatic stress disorder (PTSD) in 50%. Hence, the mental health of asylum seekers was extremely poor and worsened the longer these individuals were in detention.

One important question arises from this: Is there any evidence of a causal effect of detention on the mental problems of asylum seekers? Research using appropriate controls can provide some relevant evidence on whether detention might cause adverse outcomes on asylum seekers: Considering the particular population under investigation in this review, it is vital that an appropriate comparison group is used to establish causality.

Another concern is that diagnostic difficulties can arise in a multi-cultural context, particular when applying some Western mental health diagnoses to other cultures.

The ways of expressing distress and views on the causes of that distress may differ markedly from that of the dominant 'Western' culture. For example, depression may be seen as the result of 'thinking too much' or of witchcraft (Patel, Simunyu & Gwanzura, 1995; Patel, 1995). Some ethnic groups do not have certain Western diagnostic concepts, such as alcoholism, in their vocabulary, and the stigma attached to mental illness in some cultures may even be greater than in Western society (Paton & Jenkins, 2002). Furthermore, although similar symptoms may exist in different cultures, they do not necessarily have the same value or meaning and there is variation in what is understood to constitute "normal" emotional expression. For example, in some cultures dreams of the dead are perceived as positive and comforting (Zur, 1996). Kirmayer (1996) discusses differences between cultures in how conscious and non-conscious ways of dealing with distress are promoted, and notes that intrusion and avoidance symptoms vary in their "normality" across cultures.

Asylum seekers often come from countries in conflict and many asylum seekers have experienced pre-migration adversities that may have affected their health (Silove et al, 2000; Robjant, Hassan & Katona, 2009). High rates of pre-migration trauma, and therefore of trauma-related mental health problems, have been reported (Sinnerbrink, Silove, Field, Steel & Manicavasagar, 1997). However, research into post-migration adversities suggests that aspects of the asylum-seeking process may compound the stressors suffered by an already traumatized group (Sinnerbrink et al, 1997). Similarly, Silove et al. (1997) conclude: "Our findings raise the possibility that current procedures for dealing with asylum-seekers may contribute to high levels of stress and psychiatric symptoms in those who have been previously traumatised," (Silove et al., 1997, p. 351). Seven common post-migration adversities are identified (termed the 'seven Ds'): Discrimination, Detention, Dispersal, Destitution, Denial of the right to work, Denial of healthcare, and Delayed decisions on asylum applications (see McColl, McKenzie & Bhui, 2008).

Hence, as detention is not the only post-migration stressor and considering the fact that the population under investigation in this review most likely has high rates of pre-migration trauma; we believe it is vital that an appropriate comparison group is used to establish causality. In particular the comparison group should have similar rates of pre-migration trauma (and time to recover in the country were asylum is sought) and be of same geographical/ethnic orientation.

The main objective of this review is to assess what is known about the causal effects of detention on asylum seekers' mental health. The aim is to uncover and synthesize relevant studies that measure the causal effects on mental health of detaining asylum seekers. Although the primary focus is on mental health, all outcomes reported in studies comparing detained asylum seekers with a comparable non-detained group are examined.

We are aware that tight causal conclusions cannot be drawn from the studies we found, as none were based on trials. However, a distinction can be drawn between studies that simply assess the association between the detention of asylum seekers and mental health outcomes, and studies that control for important confounding factors. Studies that control for important confounding factors provide some evidence for considering possible causal effects<sup>7</sup>. While conclusions about causal effects must be very tentative, it is important to extract and summarize the best evidence available.

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## **1.2 DESCRIPTION OF THE INTERVENTION**

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In this review, the detention of asylum seekers is regarded as a social intervention – with possible adverse consequences for the asylum seekers. A report from the Human Rights and Equal Opportunity Commission (HREOC, 1998) argues that detention of asylum seekers breaches international human rights standards; seeking asylum is not illegal under international law and people have a right to be treated humanely and with dignity.

We define detention as the deprivation of liberty for asylum seekers in the host country. Those detained may be held in various facilities (immigration holding centres, remote camps or provincial jails) which may be run by public authorities or by private companies. In most countries, the detention of asylum seekers is an administrative procedure that is undertaken to verify the identity of individuals, process asylum claims, and/or ensure that a deportation order is carried out (The Global Detention Project, [www.globaldetentionproject.org](http://www.globaldetentionproject.org)). It is important to note that one of the key concerns vis-a-vis this form of detention is precisely its administrative nature. Domestic legal systems are rarely detailed regarding these

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<sup>7</sup> See section 3.4.3 for a discussion of confounding factors.

detention situations, which can result in detainees facing legal uncertainty (including lack of access to the outside world, e.g. to legal counsel), inadequate or no possibilities of challenging detention through the courts, and lack of limitations on the duration of detention. Living conditions differ, but in many countries detention centres are operated as if they were prisons, with barred windows, high-wire perimeter fencing, and with limited access to information, health care services and psychological support (The Global Detention Project and Amaral, 2010).

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### **1.3 HOW THE INTERVENTION MIGHT WORK**

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Asylum seekers who are detained in the host country experience a set of stressors, reflecting the detention process itself and the detention centre environment, which may adversely affect their mental health status. These include loss of liberty, uncertainty regarding return to their country of origin, uncertain duration of detention, social isolation, separation from families, abuse from staff, riots, forceful removal, hunger strikes, and self-harm (Fazel & Silove, 2006; Pourgourides, Sashidharan & Bracken, 1996; Keller et al., 2003).

How the mental health status of detained asylum seekers after release relates to the nature of their experience of detention has rarely been subjected to detailed examination and only a few such studies exist.

In the Bellevue/NYU Program for Survivors of Torture (Bellevue/NYU) and Physicians for Human Rights study, it is reported that confinement and the loss of liberty profoundly disturbed asylum seekers and triggered feelings of isolation, powerlessness and disturbing memories of persecution that asylum seekers had suffered in their countries of origin. The study by Amaral (2010) shows that detention and the negative factors associated with it has a significant deteriorative effect on asylum seekers' self-perception, with minors and long-term detainees appearing to suffer the most.

Further research was undertaken in the Coffrey, Kaplan, Sampson & Tucci (2010) study, in order to examine the experience of detention from the perspective of the detained asylum seekers, and to identify the consequences of these experiences for their life after release. Detention was experienced as a dehumanizing environment characterized by confinement, deprivation, injustice, inhumanity, isolation, fractured relationships, and mounting hopelessness and demoralization.

The probable mechanisms by which the harmful effects of detention were transmitted appear to include the following: Changes in self-perception, changes in relationships in accordance with how the detainee was perceived and treated by others and by "the system," and alteration of core values. These mechanisms are recognized in psychological literature, especially in the trauma field, as ways in which negative psychological effects are maintained following experiences which

threaten the self (Herman, 1997; Lifton, 1993; Abernathy, 2008; Campbell, Brunell & Foster, 2004; Janoff-Bulman, 1992).

Certain types of people are regarded as being vulnerable, i.e. they may be especially susceptible to harm in detention. Women, children, unaccompanied minors and persons with a mental or physical disability are widely acknowledged to be vulnerable (Amaral, 2010). Amaral defines vulnerability as a “loss of control over of oneself to someone, or something, with more power, thus making oneself susceptible to some type of harm,” (Amaral, 2010, p. 94). He concludes that the lack of information regarding asylum procedures, duration and reasons for detention and expected release is a critical indicator of detainees’ ability to cope with their time in detention. According to Amaral (2010), younger detainees aged 10 to 24 are reported to possess less information compared to older detainees. Women in general, but especially women aged 18-24, are reported to possess less information than men do. Thus younger detainees, and especially younger women, seem to particularly suffer from detention.

The UNHCR definition of vulnerable groups in addition to the ones mentioned above includes torture or trauma victims (UNHCR, 1999b).

This points towards another important aspect of the probable mechanisms by which detention may adversely affect detainees. Research suggests that asylum seekers worldwide report high rates of pre-migration trauma and adversities (e.g. war, imprisonment, genocide, physical and sexual violence, witnessing violence to others, traumatic bereavement, starvation and homelessness), (Sinnerbrink, Silove, Field, Steel & Manicavasagar, 1997; McColl et al, 2008), and therefore of trauma-related mental health problems. The process of seeking asylum in Western countries places additional demands on this group. Post-migratory stressors, in particular detention, seem to negatively affect this population, who are already vulnerable to mental health difficulties as a result of their previous exposure to traumatic events. Even though captivity is stressful in any context and in particular when it occurs over an indeterminate period, it may be even more stressful to people who have had previously traumatic experiences (Pourgourides, 1997; Paton & Jenkins, 2002). The experience of detention may reactivate and exacerbate previous trauma. For example, the Medical Foundation for the Care of Victims of Torture (1994) reports that the indeterminate detention experienced by asylum seekers who have previously been imprisoned and tortured may prolong the psychological ‘demolition’ of the person and cause high levels of stress, despair and anxiety.

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#### **1.4 WHY IT IS IMPORTANT TO DO THIS REVIEW**

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Given the well-documented vulnerability of asylum seekers as a result of traumatic experiences prior to arrival, a number of clinicians have expressed concern that detention increases mental health difficulties in adult and child asylum seekers, and have called for an end to such practices (Salinsky, 1997; Koopowitz & Abhary, 2004;

Fazel & Stein, 2004). This is clearly in conflict with government policies aimed at reducing the numbers of asylum seekers (Silove et al., 2000).

An obvious question arises: Is it worth conducting a systematic review when the likelihood is that few trial-based studies are expected to be found? We believe so, as a systematic review may uncover high quality studies that may not be found using less thorough search methods. Secondly, if a systematic review demonstrates that high quality studies are lacking, this could encourage a new generation of primary research. Hence, even though we did not expect to find any trial based studies (and did not find any) and very few studies of the detention of asylum seekers based on control group comparison, we still believe it is worth conducting a review in order to gather and highlight the best available knowledge.



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## 2 Objective of the review

The main objective of this review is to assess evidence about the effects of detention on the mental and physical health and social functioning of asylum seekers.

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## 3 Methods

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### 3.1 TITLE REGISTRATION AND REVIEW PROTOCOL

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The title for this systematic review was registered December, 2012. The systematic review protocol was approved on November 27, 2013 and published on 02.01.2014. Both the title registration and the protocol are available in the Campbell Library at: <http://campbellcollaboration.org/lib/project/253/>

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### 3.2 CRITERIA FOR CONSIDERING STUDIES FOR THIS REVIEW

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#### 3.2.1 Types of studies

Due to ethical considerations, it is hard to imagine that a researcher would control the allocation of asylum seekers into detention and non-detention conditions. We therefore anticipated that relatively few controlled trials on this topic would be found although, in the unlikely event that a controlled trial had been found, it would have been included in the review. In order to summarize what is known about the possible causal effects of detention, we included all study designs that used a well-defined control group as, for example, asylum seekers in the same country who are not detained. Non-randomised studies, where the use of detention occurred in the course of usual decisions outside the researcher's control, must have demonstrated pretreatment group equivalence via matching, statistical controls, or evidence of equivalence in the magnitude of key risk variables and participant characteristics. These factors are outlined in section 3.4.3 under the subheading of Confounding, and the methodological appropriateness of the included studies was assessed according to the risk of bias model outlined in section 3.4.3.

The study designs eligible for inclusion in the review were:

- A. Controlled trials (where all parts of the study are prospective, such as identification of participants, assessment of baseline, and allocation to intervention which may be randomised, quasi randomised or non-randomised), assessment of outcomes and generation of hypotheses (Higgins & Green, 2008).
- B. Non-randomised studies where the use of detention has occurred in the course of usual decisions, the allocation to detention and non-detention is

not controlled by the researcher, and there is a comparison of *two or more groups* of participants. In non-randomised studies, participants are allocated by means such as time differences, location differences, decision makers or policy rules.

### **3.2.2 Types of participants**

The “intervention population” comprised asylum seekers who had been detained. The comparison population comprised asylum seekers who had not been detained. Asylum seekers whose asylum application had not been successful were included. We included asylum seekers of all ages and nationalities.

According to the United Nations Convention relating to the Status of Refugees as amended by its 1967 Protocol (the Refugee Convention, 1967), a refugee is a person who is outside their own country and is unable or unwilling to return due to a well-founded fear of being persecuted because of their race, religion, nationality, membership of a particular social group, or political opinion (UNHCR, 2010). The terms “asylum seeker” and “refugee” are often used interchangeably. We follow UNHCR’s definition and use the term “asylum seeker” to mean an individual who has sought international protection and whose claim for refugee status has not yet been determined. As part of its obligation to protect refugees on its territory, the country of asylum is normally responsible for determining whether an asylum-seeker is a refugee or not. This responsibility is often incorporated in the national legislation of the country and, for State Parties, is derived from the 1951 Convention Relating to the Status of Refugees (UNHCR, 2010). Only after the recognition of the asylum seeker's protection needs, can he or she officially be referred to as a refugee and enjoy refugee status, which carries certain rights and obligations according to the legislation of the receiving country.

### **3.2.3 Types of interventions**

The intervention is the detention of asylum seekers, defined as the deprivation of liberty (personal freedom being taken away) for asylum seekers in the host country. Studies investigating returned asylum seekers detained in their home country (due to having applied for asylum) were not included. In most countries, the detention of asylum seekers is an administrative procedure and domestic legal systems rarely detail the detention situations. Detention of asylum seekers may be undertaken to verify the identity of individuals, process asylum claims, and/or ensure that a deportation order is carried out. The detained may be held in various detention facilities such as immigration holding centres, remote camps or provincial jails which may be run by public authorities or private companies.

### **3.2.4 Types of outcomes**

We planned to include and examine all outcomes (such as mental health, physical health and social functioning) reported in studies using a comparable control group, although our primary focus was on measures of mental health.

Examples of mental health outcomes include PTSD, depression, anxiety, mental and health-related disability as measured by standardized psychological instruments such as the Harvard Trauma Questionnaire, the Hopkins Symptom Checklist and the Medical Outcomes Study – Short Form. Results for each mental health outcome were analysed separately.

Examples of physical health outcomes include physical health related disability, physical functioning, and somatization as measured by self-report using, for example, the Self-Report Symptom Checklist Revised (SCL-90-R).

Social functioning outcomes include social activities, living difficulties, and personal wellbeing as measured by standardized self-report instruments as, for example, the Post-Migration Living Difficulties (PMLD) checklist and the Personal Wellbeing Index (PWBI).

Time points planned for measures were:

- For participants currently detained
- From the end of detention to one year after release
- At more than one year after release

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### **3.3 SEARCH METHODS FOR IDENTIFICATION OF STUDIES**

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The search was performed by one review author (AKJ) and one member of the review team (PVH)<sup>8</sup>.

#### **3.3.1 Electronic searches**

Relevant studies were identified through electronic searches of the following bibliographic databases and government policy databanks. No language or date restrictions were applied to the searches.

##### **3.3.1.1 International**

Academic Search Premier ASP (multi-disciplinary), searched (ECSCOplatform) until November 2013

International Bibliography of Social Sciences IBSS (social science) searched (ProQuest platform) until November 2013

PILOTS (Published International Literature On Traumatic Stress) searched (ProQuest platform) until April 2014

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<sup>8</sup> Members of the review team at SFI Campbell were: the research assistants Pia Vang Hansen (PVH), Malan Óladóttir á Dunga (MOD), Therese Lucia Friis (TLF) and Rasmus Henriksen Klokke (RHK) and the researcher Martin Bøg (MBG)

PsycINFO (psychological science) Searched (ECSCO platform) until November 2013  
PubMed (medical science) Searched (OVID platform) until November 2013  
SocINDEX (social science) searched (ECSCO platform) until November 2013  
The Cochrane Library (Cochrane reviews, other reviews with a medical focus)

### **3.3.1.2 European/Scandinavian**

Bibliotek.dk (provides access to the Danish national bibliography) searched until November 2013

Bibsys.no (the Norwegian library service for universities and university colleges) searched until November 2013

Libris.kb.se (the Swedish library service, providing access to 170 university and research libraries) searched until November 2013

RX Dignity – Danish Institute against Torture (related to refugees and torture) searched until January 2014

Social Care Online (UK database, social science) searched until November 2013

### **3.3.2 Search terms**

An example of the search strategy for PsycINFO searched on the EBSCO platform is listed in section 11. The strategy was modified for the different databases (see Appendices, section 11.1 for details).

### **3.3.3 Searching other resources**

#### *Hand searching*

The following journals that we considered most likely to include relevant primary studies were hand searched for the years 2013 and 2014:

- Journal of Refugee Studies
- International Migration Review
- Forced Migration Review
- International Migration
- Refugee

#### *Snowballing*

The review authors checked the reference lists of other relevant reviews and each of the included primary studies in an attempt to identify new leads. We also contacted international experts in an attempt to identify unpublished and ongoing studies.

#### *Grey literature*

We used Google and Google Scholar search engines and the advanced search options to search the web to identify potential studies which were unpublished and/or in progress. We checked the first 200 hits. OpenGrey (<http://www.opengrey.eu/>) was used to search for European grey literature.

We also searched the website: IZA - Database for Migration Literature (<http://www.iza.org/en/webcontent/links/migration>), to identify literature outside of the international databases.

Where available, advanced search options were used to refine the grey search strategy. Copies of relevant documents were stored and we recorded the exact URL and date of access.

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### **3.4 DATA COLLECTION AND ANALYSIS**

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#### **3.4.1 Selection of studies**

Two members of the review team (MOD, TLF) independently read titles and available abstracts of the reports and articles identified in the search to exclude those were clearly irrelevant. Citations considered relevant by at least one reviewer were retrieved in full text. If there was insufficient information in the title and abstract to judge relevance, the full text was retrieved.

One reviewer (TF) and two members of the review team (MOD, RHK) read the full text versions to ascertain eligibility based on the selection criteria. Any disagreements were resolved by discussion. A screening guide (see Appendix 11.3) was used to determine inclusion or exclusion and was provided in the protocol (Filges et al., 2014).

#### **3.4.2 Data extraction and management**

One review author (TF) and one member of the review team (RHK) independently extracted data from the included studies (see Appendix 10.1). Any disagreements were resolved by discussion. Information was extracted on: characteristics of participants, intervention characteristics, research design, sample size and time period. Numeric data extraction (outcome data) was performed by one review author (TF) and was checked by a member of the review team (RHK). Extracted data were stored electronically. Analysis was conducted in RevMan5.

#### **3.4.3 Assessment of risk of bias in included studies**

One review author (TF) assessed the risk of bias for each included study. The assessment was checked by a member of the review team (MBG). There were no disagreements.

We assessed the methodological quality of studies using a risk of bias model developed by Prof. Barnaby Reeves in association with the Cochrane Non-Randomised Studies Methods Group.<sup>9</sup> This model is an extension of the Cochrane

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<sup>9</sup> This risk of bias model was introduced by Prof. Reeves at a workshop on risk of bias in non-randomised studies at SFI Campbell, February 2011. The model is a further development of work carried out in the Cochrane Non-Randomised Studies Method Group (NRSMSG).

Collaboration's risk of bias tool and covers risk of bias in non-randomised studies that have a well-defined control group.

The extended model is organised and follows the same steps as the existing risk of bias model according to the Cochrane Hand book, chapter 8 (Higgins & Green, 2008). The extension to the model is explained in the three following points:

1) The extended model specifically incorporates a formalised and structured approach for the assessment of selection bias in non-randomised studies by adding an explicit item about confounding. This is based on a list of confounders considered to be important and defined in the protocol for the review. The assessment of confounding is made using a worksheet where, for each confounder, it is marked whether the confounder was considered by the researchers, the precision with which it was measured, the imbalance between groups, and the care with which adjustment was carried out (see appendix 11.4). This assessment will inform the final risk of bias score for confounding.

2) Another feature of non-randomised studies that make them at high risk of bias is that they need not have a protocol in advance of starting the recruitment process. The item concerning selective reporting therefore also requires assessment of the extent to which analyses (and potentially, other choices) could have been manipulated to bias the findings reported, e.g., choice of method of model fitting, potential confounders considered / included. In addition, the model includes two separate yes/no items asking reviewers whether they think the researchers had a pre-specified protocol and analysis plan.

3) Finally, the risk of bias assessment is refined, making it possible to discriminate between studies with varying degrees of risk. This refinement is achieved with the addition of a 5-point scale for certain items (see the following section, *Risk of bias judgement items* for details).

The refined assessment is pertinent when thinking of data synthesis as it operationalizes the identification of studies (especially in relation to non-randomised studies) with a very high risk of bias. The refinement increases transparency in assessment judgements and provides justification for not including a study with a very high risk of bias in the meta-analysis. Studies that have been coded with a very high risk of bias (5 on the risk of bias scale) were not included in the data synthesis.

### *Risk of bias judgement items*

The risk of bias model used in this review is based on nine items (see appendix 10.3). The nine items refer to: sequence generation, allocation concealment, confounders, blinding, incomplete outcome data, selective outcome reporting, other potential threats to validity, a priori protocol and a priori analysis plan.

## *Confounding*

An important part of the risk of bias assessment of non-randomised studies is how the studies deal with confounding factors (see appendix 10.3). Selection bias is understood as systematic baseline differences between groups and can therefore compromise comparability between groups. Baseline differences can be observable (e.g. age and gender) and unobservable (to the researcher; e.g. “appearance” of the asylum seeker). There is no single non-randomised study design that always deals adequately with the selection problem: different designs represent different approaches to dealing with selection problems under different assumptions and require different types of data. There can be considerable variation in how different designs deal with selection on unobservables. The “adequate” method depends on the model generating participation, i.e. assumptions about the nature of the process by which participants are selected into a program.

The primary studies must have demonstrated pretreatment group equivalence via matching, statistical controls, or evidence of equivalence on key risk variables and participant characteristics.

For this review, we identified the following observable confounding factors as most relevant: prior trauma exposure, gender, age, time since arrival to the country where asylum is applied for, and geographical/ethnic orientation. In each study, we assessed whether these confounding factors had been considered. We also assessed other confounding factors considered in the individual studies, and assessed how each study dealt with unobservables.

### *Importance of pre-specified confounding factors*

The motivation for focusing on prior trauma exposure, gender, age, time spent in the country where asylum is applied for and geographical/ethnic orientation is given below.

#### *Prior trauma exposure*

It is very likely that the population under investigation in this review has been exposed to pre-migration traumatic events. Pre-migration trauma exposure is a major determinant for refugee mental health (Ichikawa, Nakahara & Wakai, 2006; Carswell, Blackburn & Barker, 2011).

In relation to the expected high pre-migration trauma exposure, gender and age are important factors to control for.

#### *Gender*

Women have been found to have higher prevalence rates of PTSD (Kessler, Sonnega, Bromet et al., 1995; Breslau, Kessler, Chilcoat, Schultz et al., 1998). However, this phenomenon can partly be explained by the different types of traumas men and



women experience (Pratchett, Pelcovitz & Yehuda, 2010). According to Pratchett et al. (2010), women are more exposed to those types of trauma that are more likely to lead to PTSD symptoms, such as sexual assault. However, gender differences in exposure to different types of trauma cannot fully explain the gender differences in PTSD prevalence (Pratchett et al., 2010; Halligan & Yehuda, 2000; Gavranidou & Rosner, 2003), but no other firm explanation for gender differences exist (Halligan & Yehuda, 2000). According to Gavranidou and Rosner (2003), the question of whether women are at higher risk of being diagnosed with PTSD is unresolved. Gender (being female) is however found to be a risk factor for other psychiatric disorders (Halligan & Yehuda, 2000).

### *Age*

Given the different influences on development over the life course, particularly during the early years (Enlow et al, 2011; Lustig et al, 2003), age is a likely risk factor with respect to the consequences of exposure to trauma.

Time since arrival to the country where asylum is applied for

If the non-detained have stayed for longer in the asylum seeking country, they also have had longer timer to recover from possible pre-migration traumas than the detained, and vice versa.

### *Geographical/ethnic orientation*

The ways of expressing distress and views of the causes differ in some cultures markedly from that of the dominant 'Western' culture. Furthermore, although similar symptoms may exist in different cultures, they do not necessarily have the same value or meaning.

### *Unobservables*

For the "intervention" under consideration in this review, it is reasonable to expect a certain degree of arbitrariness in the decision process. If the criteria for detention are unclear, this implies that whether or not an asylum seeker is detained is unpredictable. According to the Council of Europe (2010), national detention policies are non-transparent. Detention of asylum seekers is often applied in a way that is unlawful or arbitrary, and can be arbitrarily prolonged as, for example, where there is no practical and imminent possibility of removal. In general, detainees have difficulty challenging the legality of their detention (Welch & Schuster, 2005; Amaral, 2010; Council of Europe, 2010).

Although arbitrariness is not randomness, we assessed the degree of arbitrariness in the detention decision process as described by the authors. The risk of systematic differences in unobservable factors between those detained or not detained will probably be minimized if there is a high degree of arbitrariness in the decision process.

#### **3.4.4 Measures of treatment effect**

For continuous outcomes, effects sizes with 95 % confidence intervals were calculated using means and standard deviations where available, or alternatively from mean differences, standard errors and 95% confidence intervals (whichever were available), using the methods suggested by Lipsey & Wilson (2001). Hedges'  $g$  was used for estimating standardised mean differences (SMD).

Software for storing data and statistical analyses were Excel and RevMan 5.0.

#### **3.4.5 Unit of analysis issues**

To account for possible statistical dependencies, we examined a number of issues: whether individuals had undergone multiple interventions, whether there were multiple treatment groups, and whether several studies were based on the same data source.

##### *Multiple Interventions per Individual*

There were no studies with multiple interventions per individual.

##### *Multiple Studies using the Same Sample of Data*

Two studies reported on the same group of asylum seekers. In Momartin, Steel, Coello, Aroche, Silove & Brooks, 2006 and in Steel 2011, outcomes were reported on average 3.6 months after release, and Steel 2011 additionally reported outcomes on average 26.3 months after release.

We reviewed both studies, and would only have included one estimate of the effect of detention on average 3.6 months after release. However neither study was used in the meta-analysis because the risk of bias was assessed to be too high (see section 4.2.1 and 4.3).

##### *Multiple Time Points*

Each time point (i.e. currently detained, from the end of detention to one year after release, and more than one year after release) was analysed separately.

#### **3.4.6 Dealing with missing data and incomplete data**

Where studies had missing summary data, such as missing standard deviations, we calculated SMDs from mean differences, standard errors and 95% confidence intervals (whichever were available), using the methods suggested by Lipsey & Wilson (2001).

### **3.4.7 Assessment of heterogeneity**

Heterogeneity among primary outcome studies was assessed with the Chi-squared (Q) test, and the I-squared, and  $\tau$ -squared statistics (Higgins, Thompson, Deeks, & Altman, 2003). Any interpretation of the Chi-squared test was made cautiously on account of its low statistical power.

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## **3.5 DATA SYNTHESIS**

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The time points of outcome measurement differed between studies. The outcomes at each time point were analysed in separate analyses with other comparable studies taking measures at a similar time point. As outlined in Section 3.4.5, we planned to group outcomes as follows: currently detained, from the end of detention to one year after release, and more than one year after release. None of the studies used in the data synthesis reported outcomes more than a year after release.

We carried out our meta-analyses using the standardised mean differences (SMD). All analyses were inverse variance weighted using random effects statistical models that incorporate both the sampling variance and between study variance components into the study level weights. Random effects weighted mean effect sizes were calculated using 95% confidence intervals.

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# 4 Results

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## 4.1 RESULTS OF THE SEARCH

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The search was performed between November 2013 and January 2014.

The results are summarised in Figure 1 in section 11.2. The total number of potential relevant records was 11,376 after excluding duplicates (database: 9,211, grey: 953, hand search, snowballing and other resources: 1,212). All 11,376 records were screened based on title and abstract; 10,777 were excluded for not fulfilling the first level screening criteria and 599 records were ordered for retrieval and screened in full text. Of these, 571 did not fulfil the second level screening criteria and were excluded. Three records were unobtainable despite efforts to locate them through libraries and searches on the internet (Barnes, 1988; Blair, 1996; Fell & Fell, 2010).

Seven records from the snowball search and 5 records from the database searches were included. A total of 9 unique studies, reported in 12 papers were included in the review. Further details of the included and excluded studies are provided in section 10.

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## 4.2 DESCRIPTION OF THE STUDIES

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### 4.2.1 Studies included in the systematic review

The search resulted in a final selection of 9 studies that met the inclusion criteria for this review. The nine studies analysed eight different asylum populations. Two studies, Momartin et al., 2006 and Steel et al., 2011, reported on the same sample of asylum seekers in Australia at different time points after release

Three studies (Momartin et al., 2006; Steel et al., 2011 and Johnston, 2009) analysed detained asylum seekers in Australia could not be used in the data synthesis because detention is contaminated with the holding of a Temporary protection visa (TPV). In the studies by Momartin et al. (2006) and Steel et al. (2011) all detained asylum seekers held a TPV, whereas all non-detained asylum seekers held a Permanent protection visa (PPV). In Johnston, 2009, a group of asylum seekers holding a TPV was compared to a group of asylum seekers holding a Permanent humanitarian visa (PHV). Nearly all TPVs (97%) and almost no PHVs (7%) had been held in immigration detention prior to release into the community

(this information was kindly provided by Professor Johnston per e-mail 12.03 2014). It was not possible to examine for the unique contribution of detention in these three studies. Previous research undertaken with Mandaean Iraqi asylum seekers subject to detention alone or detention and subsequent TPV status has supported a model in which both detention and TPV status were associated with a similar and additive adverse impact on mental health status (Steel et al., 2006). The studies would therefore most likely seriously overstate the effect of detention on mental health and they were judged to have a score of 5 on the risk of bias scale for the confounding item; in accordance with the protocol, we excluded these from the data synthesis on the basis that they would be more likely to mislead than inform.

In addition, three studies analyzing asylum seekers in Australia (Thompson, McGorry, Silove & Steel, 1998 (referred to as Thompson 1998), Steel, Silove, Brooks, Momartin, Alzuhairi & Susljik, 2006 (referred to as Steel 2006) and Thompson, 2011 (referred to as Thompson 2011)) were judged to have a score of 5 on the risk of bias scale for the confounding item; in accordance with the protocol, we excluded these from the data synthesis on the basis that they would be more likely to mislead than inform.

For the remaining three studies, Robjant, Robbins & Senior, 2009 (referred to as Robjant 2009) analysed asylum seekers in the UK; Ichikawa, Nakahara & Wakai, 2006 (referred to as Ichikawa 2006) analysed asylum seekers in Japan, and Cleveland & Rousseau, 2013 (referred to as Cleveland 2013) analysed asylum seekers in Canada.

The main characteristics of the three studies used in the data synthesis are shown in Table 4.1.

*Table 4.1: Characteristics of studies*

Study	Country	Time period	Sample size (T/C)	Country of origin	Mean age	Share of men	Length of detention	Still detained
Robjant 2009	UK	Not reported	T:67; C:49	From 43 different countries	29.5 years	60%	Median 1 month	Yes
Ichikawa 2006	Japan	2002-2003	T: 18; C: 37	Afghanistan	27.8 years	100%	Median 7 months, range is 4-10 months	No
Cleveland 2013	Canada	2010-2011	T: 122; C: 66	Sub-Saharan, Middle East and North Africa, South Asia, Latin America, Caribbean and Europe	31.6 years	67%	Mean: 31.2 days	Yes

The reported time period spanned by the included studies is 10 years, from 2002 to 2011. In two studies the asylum seekers originated from a variety of countries; and in one study common country of origin was Afghanistan. In total 359 asylum seekers were analysed of which more than half (58%) had been detained. The average sample size was 69 detained asylum seekers and 57 non-detained asylum seekers. The mean age of the detained asylum seekers varied between 27.8 years and 31.6 years. In all studies, men accounted for more than 50% of the sample. The measure of length of detention varied between studies, with two reporting median length and one reporting mean length. In all studies, the reported median or mean lengths of detention were less than a year; however, in two of the studies the asylum seekers were still detained at the time of interviewing.

### *Characteristics of detention centres*

Two of the studies provided general information about detention practices and on the characteristics of detention centres in the countries in question.

For Canada, Cleveland 2013 provided general information about living conditions in Canadian detention centres. The detention centres were prisons, men and women were held in separate wings, there were virtually no activities, and only primary health care was provided.

Robjant 2009 provided information about the detention centres and living conditions from which participants were recruited in the UK. Two of the centres were high security centres with a large number of former male prisoners. The other two centres held male and female detainees, also each also had a family wing and hence detained children of any age with their parents. Several activities were available, and healthcare was provided on site and was privately run.

Unfortunately the study from Japan, Ichikawa 2009, provided no information on detention centres and living conditions in Japan.

### *Prior traumatic experiences*

Prior traumatic experiences are a major determinant for refugee mental health (Ichikawa, Nakahara & Wakai, 2006; Carswell, Blackburn & Barker, 2011). The population under investigation in this review had experienced a number of traumatic events prior to fleeing. In all studies, a variety of different traumatic events are reported along with the share of asylum seekers having experienced them. All three studies used standard questionnaires to measure the pre-migration traumatic experiences: Part 1 of the Post-traumatic diagnostic scale (PDS) and section 1 of the Harvard Trauma Questionnaire (HTQ).

In Robjant 2009, the PDS was used; 12 different traumas and the share of asylum seekers experiencing them were reported.

The remaining two studies both used the HTQ, probably the Indochinese version as they all refer to Mollica et al., 1992 which describes the development and validation of an Indochinese version of the HTQ which originally included 17 items describing a range of traumatic experiences. In Ichikawa 2006 it is explicitly stated that all 17 original items were included, although only six items were reported. In Cleveland 2011 it is stated that prior trauma was assessed through a 20-item version of the HTQ Trauma Events Checklist, and all 20 were reported.

The nine items most reported and the mean number of trauma exposures is shown in table 4.2.

*Table 4.2. Percent reporting prior traumatic experiences*

Prior trauma	Ichikawa 2006	Cleveland 2013	Robjant 2009
Torture	67	43	39
Combat	80	27	43
Forced isolation	80	43	-
Forced separation from family and friends	80	65	-
Being close to death	82	90	-
Murder of family/friends	67	46	-
Witness murder of strangers	-	43	-
Serious injury	-	39	13
Imprisonment	-	32	43
Mean number of traumatic experiences	10	9	3

Note: '-': not reported

In all studies reporting on traumatic events, 39% to 67% of the asylum seekers had experienced torture. Combat, murder of family and friends, forced isolation and imprisonment had also been commonly experienced. Further descriptions of all studies are given in section 10.1 and the full list of reported traumatic events can be found in Section 12.

#### *Mental health outcome measures*

The mental health outcomes measures reported in all studies were PTSD, depression and anxiety, and all were assessed using standardised measures. PTSD was assessed using the Harvard Trauma Questionnaire (HTQ) and the Impact of Events Scale-revised (IES-R). Depression and anxiety were assessed using the Hopkins Symptoms Checklist-25 (HSCL-25) and the Hospital Anxiety and Depression scale (HADS (D and A)).

No other mental health outcomes were reported in the studies used in the data synthesis.

#### *Physical health and social functioning outcome measures*

No other outcomes were reported in the studies used in the data synthesis.

#### **4.2.2 Excluded studies**

In addition to the nine studies that met the inclusion criteria for this review, one study at first sight appeared relevant but did not meet our criteria. The study and reason for exclusion is given in Section 10.2.

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### **4.3 RISK OF BIAS IN INCLUDED STUDIES**

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The risk of bias coding for each of the nine studies is shown in Section 12.2, and a summary of the risk of bias associated with the nine studies is shown in Table 4.3. Six studies were given a score of 5 on the confounding item (a score of 5 corresponds to a risk of bias sufficiently high for the findings not to be considered in the data synthesis).

All studies used non-randomised designs and were judged to have a high risk of bias on the sequence generation item and the allocation concealment item (not shown in table 4.3). All studies used opportunity sampling strategies and two studies in addition relied on snowball sampling. A detailed description of the sampling techniques is given in section 12.3. Six studies had an a priori protocol and three studies had an a priori analysis plan.

Due to the nature of the intervention, those in the treatment condition will always be aware that they are treated; therefore, assessment of the blinding item with regard to the participants did not differ across studies. In all studies data were obtained from questionnaires which were collected with the aim of analysing the effect of detention (in some studies among other things). All studies were thus judged 4 on the blinding item.

Concerning incomplete data, four studies did not report on either response rate or missing data and were therefore judged Unclear on this item. For the remaining five studies, the reported response rates were high and the level of missing data low. The detailed assessment of the incomplete data item is shown in section 12.2.

Selective reporting was judged not to be a concern in the majority of studies. One study mentioned that statistical methods were used to allow comparisons between detained and non-detained, holding constant the pre-migration trauma level; the results were however not reported and the study was judged 3 on the selective reporting item. The 'other bias' item was not judged to be a concern in any study.



The judgement of risk of bias due to confounding varied. Six studies, as already mentioned, scored 5. In three studies (Momartin et al., 2006; Steel et al., 2011 and Johnston, 2009) all (almost all in Johnston, 2009) detained asylum seekers were also holders of a Temporary protection visa (TPV) and were compared to non-detained holders of a Permanent protection visa (PPV). In addition, three studies (Thompson 1998, Steel 2006 and Thompson 2011) did not adjust for confounding and there were some large imbalances on important confounders; they were therefore judged to have a score of 5 on the risk of bias scale for the confounding item. In two studies (Ichikawa 2006 and Cleveland 2013) the risk of bias due to confounding was judged to be of no concern as all pre-specified confounders were statistically controlled for (using multiple regression) and there were no large imbalances. In one study (Robjant 2009) the risk of bias due to confounding was judged to be of some concern as there was no adjustment of confounders but no or only minor imbalances on all pre-specified confounders (with the exception of time since arrival which was not considered). The study was given a score of 3. The detailed assessment of confounding including all items in the confounding work sheet (see section 3.4.3) is shown in Section 12.2.

Table 4.3: Risk of bias

	Study				
Risk of bias item	Thompson 1998	Robjant 2009	Ichikawa 2006	Steel 2006	Momartin 2006
Blinding <sup>1</sup>	4	4	4	4	4
Incomplete data <sup>1</sup>	Unclear	1	1	Unclear	2
Selective reporting <sup>1</sup>	3	1	1	1	1
Other bias <sup>1</sup>	1	1	1	1	1
A priori protocol	Unclear	Yes	Unclear	Yes	Yes
A priori analysis plan	Unclear	Yes	Unclear	Unclear	Yes
Confounding <sup>1</sup>	5	3	1	5	5

*1: The judgement is based on a 5-point/unclear scale where 1 indicates low risk of bias and 5 indicates high risk of bias and unclear if nothing is reported (see section 3.4.3).*

Table 4.3 - continued: Risk of bias

	Study			
Risk of bias item	Steel 2011	Cleveland 2013	Thompson 2011	Johnston 2009
Blinding <sup>1</sup>	4	4	4	4

Incomplete data <sup>1</sup>	2	1	Unclear	Unclear
Selective reporting <sup>1</sup>	1	1	2	1
Other bias <sup>1</sup>	1	1	1	1
A priori protocol	Yes	Yes	Yes	Unclear
A priori analysis plan	Unclear	Yes	Unclear	Unclear
Confounding <sup>1</sup>	5	1	5	5

## 4.4 EFFECTS OF THE INTERVENTION

In order to carry out a meta-analysis, every study must have a comparable effect size. All studies provided data enabling the calculation of standardised mean differences (SMDs) and variances. Two studies reported outcomes while the asylum seekers were still detained, and one study reported outcomes less than a year after release.

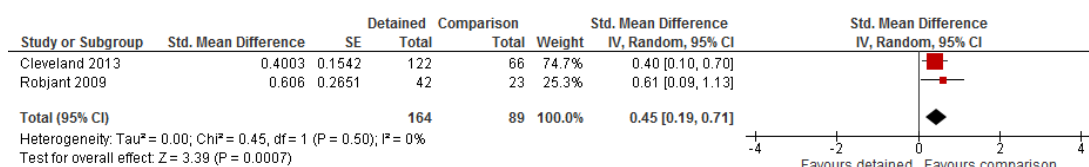
### 4.4.1 Mental health outcome results

All outcomes are measured such that a negative effect size favours the detained asylum seekers, i.e. when an effect size is *negative* the detained asylum seekers are better off than comparison groups of non-detained asylum seekers, and when an effect size is *positive* the detained asylum seekers are worse off than comparison groups of non-detained asylum seekers.

#### PTSD

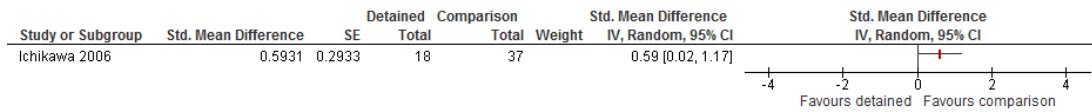
There was no heterogeneity between the two studies reporting PTSD while the asylum seekers were still detained; the estimated  $\tau^2$  is 0.00 and  $I^2$  is 0% as displayed in figure 4.1. Both effect sizes favour the comparison group and are statistically significant. The weighted average standardised mean difference (SMD) is 0.45 [95% CI 0.19, 0.71].

Figure 4.1. PTSD, while in detention



The effect size after release favours the comparison group and is statistically significant. Ichikawa reports a SMD of 0.59 [95% CI 0.02, 1.17] as displayed in figure 4.2.

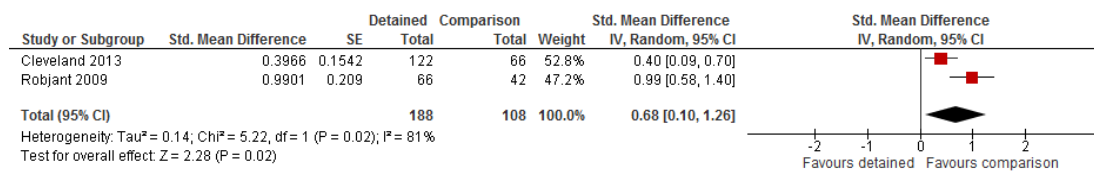
Figure 4.2. PTSD, after release



### Depression

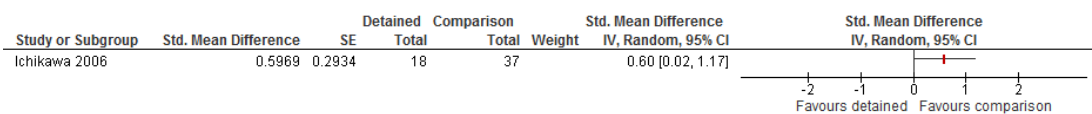
There is some heterogeneity between the two studies reporting depression while the asylum seekers are still detained; the estimated  $\tau^2$  is 0.14 and  $I^2$  is 81% as displayed in figure 4.3. The pooled estimate and confidence interval should therefore be interpreted with caution. Both effect sizes favour the comparison group and are statistically significant. The weighted average standardised mean difference (SMD) is 0.68 [95% CI 0.10, 1.26].

Figure 4.3. Depression while in detention



The effect size after release favours the comparison group and is statistically significant. Ichikawa reports a SMD of 0.60 [95% CI 0.02, 1.17] less than a year after release as displayed in figure 4.4.

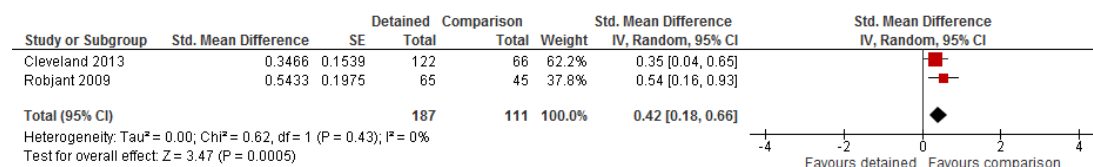
Figure 4.4. Depression after release



### Anxiety

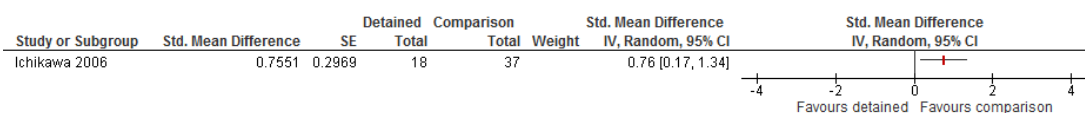
There is no heterogeneity between the two studies reporting anxiety while the asylum seekers are still detained; the estimated  $\tau^2$  is 0.00 and  $I^2$  is 0% as displayed in figure 4.5. Both effect sizes favour the comparison group and are statistically significant. The weighted average standardised mean difference (SMD) is 0.42 [95% CI 0.18, 0.66].

Figure 4.5. Anxiety while in detention



The effect size after release favours the comparison group and is statistically significant. Ichikawa reports a SMD of 0.76 [95% CI 0.17, 1.34] less than a year after release as displayed in figure 4.6.

Figure 4.6. Anxiety after release



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# 5 Discussion

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## 5.1 SUMMARY OF THE MAIN RESULTS

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The studies used in the data synthesis (Cleveland, 2013; Ichikawa, 2006 and Robjant, 2009) reported outcomes on mental health, measured as PTSD, depression and anxiety. No other outcomes were reported.

Primary study effect sizes for PTSD, depression and anxiety while the asylum seekers were still detained lies in the range 0.35 to 0.99, all favouring the non-detained asylum seekers.

The weighted average effect sizes for PTSD and anxiety are of a magnitude which may be characterised as being of clinical importance and the weighted average effect size for depression is of an even higher magnitude. They all favour the non-detained, i.e. there is an adverse effect of detention on mental health. The magnitude of the pooled estimates should however be interpreted with caution as they are based on two studies (Cleveland, 2013 and Robjant, 2009), and for depression there is some inconsistency in the magnitude of effect sizes between the two studies.

One study (Ichikawa, 2006) reported outcomes (PTSD, depression and anxiety) after release; the effect sizes are all of clinical importance and favour the non-detained asylum seekers.

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## 5.2 OVERALL COMPLETENESS AND APPLICABILITY OF EVIDENCE

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In this review we included three studies in the data synthesis. This number is relatively low compared to the number of studies (nine) meeting the inclusion criteria. The reduction was caused by two different factors. Unfortunately three studies (of which one was a follow up to another) compared detained asylum seekers holding Temporary Protection Visas to non-detained asylum seekers holding Permanent Protection Visas or Permanent Humanitarian Visas (Momartin et al., 2006; Steel et al., 2011 and Johnston, 2009). It was not possible to examine for the unique contribution of detention in these studies. They were given a score of 5 on the confounding item and, in accordance with the protocol, were not used in the data synthesis. All nine studies collected information on some or all of the pre-specified confounding variables (see section 12.2). Unfortunately three studies

(Thompson 1998, Steel 2006 and Thompson 2011) did not adjust for confounding and there were some large imbalances on important confounders. They were judged to have a score of 5 on the risk of bias scale for the confounding item and, in accordance with the protocol, we excluded these from the data synthesis on the basis that they would be more likely to mislead than inform. A larger number of useable studies in the data synthesis would have provided a more robust literature on which to base conclusions.

All studies used opportunity sampling strategies (two studies in addition relied on snowball sampling). The populations under investigation in the included studies may therefore not be representative for the general population of detained asylum seekers.

Studies investigating asylum seekers detained in four different countries (Australia, Canada, UK and Japan) were identified, and the asylum seekers originated from a variety of countries. However, none of the six studies investigating detention of asylum seekers in Australia were used in the data synthesis for the reasons given above. This is a clear limitation of the review as Australia has been unique in establishing a policy of mandatory detention of all asylum seekers arriving by boat or without valid travel documents.

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### **5.3 QUALITY OF THE EVIDENCE**

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All studies used non-randomised designs. We are aware that tight causal conclusions therefore cannot be drawn from the studies we found.

Considering the particular population under investigation in this review, it is essential that an appropriate comparison group is used to establish causality. All studies that were included used asylum seekers not detained as a comparison, which is a precondition for being an appropriate comparison group.

Due to the sampling strategies used (opportunity sampling and snowball sampling), obtaining balance on the confounding factors may be difficult and probably requires some luck. Nevertheless, the three studies used in the data synthesis had no or only minor imbalances on the pre-specified confounders, and two of these studies in addition statistically controlled for the confounders. Risk of bias due to confounding was judged not to be of concern in two studies and of some concern in one study.

There was overall consistency in the direction of treatment effects in that all treatment effects favoured the non-detained. For depression while still detained there is, however, some inconsistency in the magnitude of effect sizes between the two studies included in the analysis.

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## 5.4 POTENTIAL BIASES IN THE REVIEW PROCESS

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We believe that all the publicly available studies on the effect of detention of asylum seekers on their mental health were identified during the review process.

However, three references were not obtained in full text<sup>10</sup>. A potential for bias arises from omitting these three unobtainable studies.

We believe that there are no other potential biases in the review process as one review author (TF) coded the included studies and one member of the review team (RHK) checked. There were no disagreements. Assessment of risk of bias for each included study was done by one review author (TF) and was checked by a member of the review team (MBG). There were only minor disagreements and they were resolved by discussion.

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## 5.5 AGREEMENTS AND DISAGREEMENTS WITH OTHER STUDIES OR REVIEWS

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We identified two systematic reviews on the mental health impacts of detention of asylum seekers (Storm & Engberg, 2013 and Robjant et al., 2009). Both reviews provided a narrative synthesis.

In Storm & Engberg, 2013, the primary aim was to study the impact of detention of torture survivors, although primary studies where only some participants were torture survivors were also included. The author's conclusion is that although the studies do report severe mental health issues among detained torture survivors and, in general, serious mental health problems are found, the available data are insufficient to allow analysis of any specific effects.

Robjant et al., 2009 included all studies that reported quantitative or qualitative measures of mental health for children, adolescents or adults who were either currently detained or who had previously been detained in immigration detention or removal centres in Australia, the UK or the USA. The authors concluded that primary studies consistently report high levels of mental health problems among detainees and there is some evidence to suggest an independent adverse effect of detention on mental health. However, they also note that research on this topic is in its infancy and primary studies are limited by methodological constraints.

The two reviews focus on different populations to the one in our review, both have limitations of different kinds (limited to torture survivors in Storm & Engberg, 2013 and limited to Australia, the UK or the USA in Robjant et al., 2009). In our review no limitations of this kind is employed.

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<sup>10</sup> Barnes, 1988; Blair, 1996; Fell & Fell, 2010.

Consistent with our conclusions, the apparent feedback from the two reviews is that more research is needed. In addition, Robjant et al., 2009 conclude that the current evidence suggests an independent adverse effect of detention on mental health, which is in line with our conclusion.



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# 6 Authors' Conclusion

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## 6.1 IMPLICATIONS FOR PRACTICE

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The process of seeking asylum in Western countries places additional demands on asylum seekers. These include, besides detention, enforced dispersal within the community, more stringent refugee determination procedures, and temporary forms of asylum. In several countries, asylum seekers living in the community face restricted access to work, education, housing, welfare and, in some situations, to basic health care services. Thus, post-migratory stressors of various kinds seem to negatively affect this population who are already vulnerable to mental health difficulties as a result of their previous exposure to traumatic events.

Considering the fact that the population under investigation in this review has high rates of pre-migration trauma and that detention is not the only post-migration stressor, it was essential that an appropriate comparison group was used to establish causality.

All studies used in the data synthesis compared detained asylum seekers to a group of asylum seekers living in the community who had a more or less similar experience of traumatic events prior to arrival. All studies report adverse effects on the detained asylum seekers' mental health. Effect sizes lie in a clinically important range despite the fact that the comparison groups used in the primary studies face a range of similar post-migration adversities and have been equally exposed to prior traumatic events. There is thus some evidence to suggest an independent deterioration of the mental health due to detention of a group of people who are already highly traumatised.

Adverse effects on mental health were found not only while the asylum seekers were detained. The one study analysing asylum seekers after release suggests that the adverse mental health effect of detention may be prolonged, extending well beyond the point of release into the community.

Knowing that detention may have adverse effects on the mental health of already traumatized asylum seekers, the use of detention should first of all in general come to an end or at least be used only as an absolutely last resort according to a justified purpose other than merely the status of being an asylum-seeker.

Secondly, successful alternatives to detention should be explored and implemented. According to Edwards (2011), who provides a critical overview of existing and possible alternatives to detention, there is a range of alternatives to detention in operation in Western countries. These include reporting or residency requirements, guarantees, sureties or bail, community supervision or case management, electronic monitoring, and home curfew.

Many of these alternatives, however, restrict the movement or deprive the liberty of asylum seekers and are thus subject to human rights oversight. The type of alternative to detention that a government uses must fit the country's particular context, and especially the needs of the individual asylum seeker. The least intrusive alternative must always be taken in each individual case.

Edwards (2011), identifies some shared elements or features of the different alternatives which could account for their success or workability.

They are: 1) treatment of asylum-seekers with dignity, humanity and respect throughout the relevant immigration procedure 2) provision of clear and concise information about rights and duties and consequences of non-compliance 3) referral to legal advice, including advice on all legal avenues to stay, especially starting at an early state in the relevant procedure and continuing throughout 4) access to adequate material support, accommodation and other reception conditions 5) individualised 'coaching' or case management services.

These five points should be taken into consideration when implementing alternatives to detention.

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## **6.2 IMPLICATIONS FOR RESEARCH**

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Further research is required to fully address the potential adverse effects on the mental health of detained asylum seekers. Few studies have investigated this issue using appropriate comparison groups, and even fewer studies have investigated the long term effects after release.

It should be acknowledged that research in this field is problematic for a number of practical and methodological reasons. Researchers report encountering difficulties in acquiring access to detained asylum seekers. The small sample sizes recruited for some of the studies probably reflect some of these practical difficulties. Sampling methods targeting individuals who have experienced detention but have been released at the time of the study, allows investigation of the longer-term impact of detention, however.

Due to the nature of the research field, future studies will probably have to rely on opportunity sampling strategies and/or snowball sampling, as did all the studies in this review. Obtaining balance on important confounding factors may be difficult, which adds to the importance of statistically controlling for relevant factors.

A few of the studies report only descriptive results even though data had been gathered on important confounding factors, such as prior traumatic experiences. The risk of bias due to confounding would be judged to be of less concern had the primary study authors controlled for these factors. As the data already are gathered, it is recommended that analyses controlling for important confounding factors are carried out using these data.

Although the three studies used in the data synthesis cover people seeking asylum in three different countries, research from more countries is needed to generalise the results as conditions of detention varies across countries. As we recommend that the use of detention should in general come to an end or at least be used only as an absolutely last resort, these future studies will probably have to rely on sampling methods targeting individuals who have experienced detention but have been released at the time of the study, allowing investigation of only the longer-term impact of detention.

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## 7 Acknowledgements

We would like to thank Dr. B. C Reeves from the Cochrane Non-Randomised Studies Methods Group for materials and training regarding the assessment of risk of bias.

The review authors are responsible for any remaining errors.

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## 8 Methods not implemented

### 8.1.1 Assessment of reporting bias

We were unable to comment on the possibility of publication bias because there were insufficient studies for the construction of funnel plots.

### 8.1.2 Moderator analysis and investigation of heterogeneity

We planned to investigate the following factors with the aim of explaining observed heterogeneity: Study-level summaries of participant characteristics (studies considering a specific age group or gender, or studies where separate effects for men/women or young/old are available), rate of pre-migration trauma exposure, and length of detention.

There were, however, insufficient studies at any time point for moderator analysis to be performed.

### 8.1.3 Sensitivity analysis

We planned to carry out sensitivity analyses to evaluate whether the pooled effect sizes were robust across components of methodological quality, but there were insufficient studies at any time point for this to be performed.

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# 10 Characteristics of studies

## 10.1 CHARACTERISTICS OF INCLUDED STUDIES

Study	Thompson 1998	Robjant 2009	Ichikawa 2006
<b>Participant characteristics (age, gender, geographical/ethnic origin, legal status)</b>	Age and gender NR. Tamil asylum seekers from Sri Lanka. Asylum seekers	Mean age 29.5. 60-77% men (not separate for asylum seekers and the former prisoner group but assuming all former prisoners are male the share of men is 60%) men. From 43 different countries. Asylum seekers of which 31% were failed asylum seekers awaiting deportation	Mean age 27.8. 100% men. All from Afghan. Asylum seekers
<b>Time period</b>	Detained between November 1996 and June 1998.	NR	2002-2003

<b>Intervention characteristics available</b>	Maribyrnong Detention Centre, otherwise nothing reported	Detained participants were recruited from within four Immigration removal centres (IRCs). Two of these were high security centres and held a large number of former prisoners, all of whom were male. The other two centres held male and female detainees, and also each had a family wing and hence detained children of any age, with their parents). One centre (the deportation centre) had a more open environment and detainees had free access to all areas (except the family wing) during the day. Recreational activities, English language courses, library facilities, and religious services were available. In all the centres, healthcare was provided on site and was privately run. Access to NHS (National health service?) services was only available when the healthcare available within the centre was considered to be inadequate, and a referral to secondary levels of healthcare was required.	NR
<b>Country of asylum</b>	Australia	UK	Japan
<b>Length of detention</b>	Average of 11 months	Median 1 month, average not reported	Median time is 7 months, average not reported, but range is 4-10 months

<b>Prior trauma exposure/experiences</b>	Seventy two percent reported having been tortured, with almost all Tamils surveyed having witnessed or experienced the murder of family or friends, and 88% reporting being close to death themselves	Mean number is 2.99 and more than 54% had experienced at least one. Of treated/control 39%/20% had been tortured. Table 1 p. 280	Mean number of events 9.9. The most commonly experienced or witnessed trauma events were being close to death (81.8%), combat situation, forced separation from family members (80.0% each), forced isolation from others, murder of family or friends and torture (67.3% each).
<b>Time since arrival</b>	Mean detention length 11 months	NR	Mean of 22.9 months since arrival. Median of 7 months in detention

<b>Study</b>	<b>Steel 2006</b>	<b>Momartin 2006</b>	<b>Steel 2011</b>
<b>Participant characteristics (age, gender, geographical/ethnic origin, legal status)</b>	Full sample mean age 38. 54% men. Sabaeen–Mandaeans (Mandaeans), a small pre-Christian sect originating mainly from Iran and Iraq. Asylum seekers, 80.5% with Temporary Protection visas and 19.5% with Permanent Protection visas	Mean age 32. 65% men. Only stated that all come from Persian-speaking backgrounds. Temporary protection visa holders (asylum seekers)	Detained: mean age 32, 66% men, geographical/ethnic origin: Come from Iraq and Afghanistan all with Persian-speaking backgrounds. Temporary protection visa holders (asylum seekers)
<b>Time period</b>	NR	2002-2003	Detention 2002-2003 and follow up 2004-2005



<b>Intervention characteristics available</b>	NR	<p>More than 95% of ex-detainees reported serious/very serious stress regarding fears of being sent home, being told by officers that they should return to their country of origin, and language difficulties while in detention. Other items endorsed as causing serious/very serious stress by more than 90% of the sample included separation from families, being interviewed by immigration officers, not receiving adequate medical treatment, exposure to acts of violence and brutality, seeing people make suicide attempts, and several items related to poor conditions in detention. Items endorsed at a lower level were nevertheless noteworthy, including being assaulted by officers (81%), being handcuffed during transport (71%), being woken during the night for head counts (85%), being forced to use unhygienic toilets (81%), and solitary confinement (60%).</p>	<p>The sample consisted of a consecutive cohort of all eligible refugees (TPV and PPV) from Afghanistan and Iran attending the Early Intervention Program (EIP) of the Service for the Treatment and Rehabilitation of Torture and Trauma Survivors (STARTTS) in New South Wales, the state receiving the largest number of refugees annually in Australia. The EIP is a service that provides short-term initial settlement support to clients after their arrival into Australia, or who have arrived within the last twelve months. Services provided include: on arrival reception and initial orientation; information about and referral to other service providers and mainstream agencies; assistance with accommodation and basic household goods; short-term torture and trauma counselling.</p>
<b>Country of asylum</b>	Australia	Australia	Australia
<b>Length of detention</b>	Median time is 6 months, average not reported	Mean: 12.8 months	Median 8 months

<b>Prior trauma exposure/experiences</b>	Reported separate for Temporary Protection visa holders (90% have been detained) and Permanent Protection visa holders (30% have been detained). Mean number of events TPV=5.3 (79% had experienced at least one); PPV=3.1 (62% had experienced at least one). 12-18% had been tortured. Table 2 p. 60	Over half of the sample reported periods of lack of food or water, ill-health without access to medical care, forced separation from families, and family members or friends being murdered. More than 20% of the sample reported experiencing serious injury, forced isolation, imprisonment or torture.	Number of HTQ-listed trauma categories endorsed by treated was 4.8
<b>Time since arrival</b>	Mean time since release: 35.5 months	Mean number of months living in community is 3.6 months and mean time in detention is 12.8 months: 16.4 months	On average 26.3 months after release (Median time since release: 4 months) and median time in detention 8 months

<b>Study</b>	<b>Cleveland 2013</b>	<b>Thompson 2011</b>	<b>Johnston 2009</b>
<b>Participant characteristics (age, gender, geographical/ethnic origin, legal status)</b>	Mean age: 31.6. 67% men. Sub-Saharan Africa (50%), South Asia (10.7%), Middle East and North Africa (17.2%), Latin America (9%), Caribbean (9%) and Europe (4.1%). Asylum seekers.	Mean age: 29.5. 83% men. Middle East, Africa, Central America, Europe, and Asia. Asylum seekers	Mean age: 35.1. 56% men. Iraq (83% Arabic). Temporary Protection Visa asylum seekers (at the time of data collection)
<b>Time period</b>	Detained in July 2010-July 2011	Detained in 1997-1998. Otherwise data for this study were collected 1993-1998	Data collected in November 2004 to October 2005. Mean time in community for the detained is 42.6 months (3.5 years) so detained on average 2001-2002 (all are detained 1999 and after)

<b>Intervention characteristics available</b>	In Canada, asylum seekers may be detained on arrival, generally in IHCs (Immigration Holding Centre) managed by the CBSA (Canadian Border Services Agency). IHCs are prisons, with ubiquitous guards, surveillance cameras, and rigid rules. Men and women are held in separate wings, with a special section for children and mothers. Personal effects are confiscated. There are virtually no activities except television. Primary health care is provided, but no mental health services. Suicidal detainees are either placed in segregation under 24/7 surveillance or transferred to a maximum-security prison. All detainees, except children and pregnant women, are handcuffed during transportation, notably when in need of hospital care.	Nothing reported	Nothing reported
<b>Country of asylum</b>	Canada	Australia	Australia
<b>Length of detention</b>	Mean: 31.2 days	Mean: 3 years	Missing
<b>Prior trauma exposure/experiences</b>	Mean number of events 9.3 and more than 90% had experienced at least one	Survivors of torture 45%, survivors of other systemic abuse 55%. Nineteen other traumatic experiences listed in table 8.11 page 207	52% had experienced persecution. Torture NR

<b>Time since arrival</b>	Detained: arrested within 3 months of arrival and spent an average of 31.2 days in detention when interviewed, Non-detained: mean: 102.4 days	Detained: mean 3 years, Non-detained: mean 2 years	Detained: mean 42.6 months, non-detained mean 38.7 months
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Additional information about Johnston 2009, kindly provided by Professor Johnston per e-mail 12.03 2014:

Questionnaires were completed by 131 refugees (TPV = 71, PHV = 60). Nearly all participants were born in Iraq. Two young siblings in the TPV group were born in Iran and one participant in the PHV group was born in Kuwait. All three came from Iraqi families who had initially fled to neighbouring countries and spent some years living in their first country of asylum, before arriving in Australia. They all identified as Iraqi, despite not being born in the country, hence their inclusion in the study sample.

Approximately 90% of TPV participants arrived in Australia between 1999 and 2001 at the height of the boat arrivals. Sixty-seven were granted a three-year TPV. Four refugees held a five-year Temporary Humanitarian Visa (THV), introduced in late 2001. Two of these participants were survivors from a people smuggling boat that sank en route to Australia in 2001. After UNHCR interviewed them, the Australian government accepted them directly on temporary visas. Australia officials intercepted the other two on the boat they were travelling on from Indonesia and they were subsequently transported directly to Nauru for processing of their visas in 2001.

The PHV refugees arrived between 1998 and 2004. Fifty-six received a PHV prior to arriving in Australia. The remaining four PHV participants landed in Australia as asylum seekers prior to 1999 when the TPV policy was introduced. As such, they received permanent visas when their applications for refugee status were approved.

All except two TPV refugees had spent time in an Australian immigration detention centre. The two not detained in Australia were a mother and son whose claims were processed in Indonesia after the boat they were travelling on to Australia sank. Four PHV refugees had also spent time in detention, for a time of between four to six weeks. By contrast, 69 TPV refugees spent a mean time of 6.4 months (Range 10.5, SD = 2.85) in detention

before receiving their visa. Four TPV refugees spent 12 months in detention, the maximum time in this sample. Of these four, two were detained in Nauru.

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## 10.2 CHARACTERISTICS OF EXCLUDED STUDIES

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*Keller et al., 2003*

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Reason for exclusion	
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The study analysed detained asylum seekers in the USA. The comparison group was released detained asylum seekers. Hence, it did not qualify for inclusion in the review.

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# 11 Appendices

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## 11.1 SEARCH DOCUMENTATION

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Search strategy for PsycINFO searched on the EBSCO platform

1. asylum n1 seek\*.ti,ab.
2. Asylum-seeker\*.ti,ab.
3. "Asylum applican\*" .ti,ab.
4. "Asylum claim\*" .ti,ab.
5. Exile\*.ti,ab.
6. Fugitive\*.ti,ab.
7. "Displaced person\*" .ti,ab.
8. (Refuge\* or Migrant\* or Immigrant\*.ti,ab.) or DE "Refugees"
9. 1-8/OR
10. Detention\*.ti,ab.
11. Confin\*.ti,ab.
12. Depriv\* N2 liberty.ti,ab.
13. Detain.ti,ab.
14. Detained.ti,ab.
15. Restrain\*.ti,ab.
16. Restrained.ti,ab.
17. Confine.ti,ab.
18. Confined.ti,ab.
19. "Immigration holding" .ti,ab.
20. Imprison\*.ti,ab.
21. Incarcerate\*.ti,ab.
22. "Reception cent\*" .ti,ab.
23. "Asylum cent\*" .ti,ab.
24. "Accommodation cent\*" .ti,ab.
25. "Temporary protection".ti,ab.

26. Retention.ti,ab.
27. "refugee camp\*" .ti,ab.
28. Custod\* .ti,ab.
29. Prison\*.ti,ab. or DE "Prisons"
30. Jail\*.ti,ab.
31. 10-30/OR
32. 9 AND 31

**Cochrane** November 2013

Search numbers	Terms	Totals
1.	(asylum near/1 seek*)	14
2.	(Asylumseeker* or Asylum-seeker*)	13
3.	Asylum applicant*	0
4.	(Asylum near/1 claim*)	1
5.	Exile*	4
6.	fugitive*	8
7.	Displaced person*	181
8.	(Refuge* or Migrant* or Immigrant*)	552
9.	Refugees mh	17
10.	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10	732
11.	Detention.ab,ti.	63
12.	"Confin*" .ab,ti.	1909
13.	(Depriv* near/2 liberty)	2
14.	(Detain or Detained).ab,ti.	33
15.	(Restrain or Restrained)	374
16.	confined).ab,ti.	1771
17.	Immigration holding.ab,ti.	8
18.	"Imprison*" .ab,ti	70
19.	"Incarcerat*" .ab,ti.	339
20.	(Reception near/1 cent*)	0
21.	(Asylum near/1 cent*)	2
22.	(Accommodation near/1 cent*)	4
23.	Temporary protection.ab,ti.	133
24.	Retention.ab,ti.	7558



25.	(refugee near/1 camp*)	43
26.	"Custod*".ab,ti.	144
27.	(Prison* or jail*).ab,ti.	767
28.	#11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27	10894
29.	10 and #28	92

### Medline November 2013

Search number	Searches	Totals
1	(asylum adj1 seek*).ab,ti.	835
2	(Asylumseeker* or Asylum-seeker*).ab,ti.	704
3	"Asylum applicant*".ab,ti.	20
4	(Asylum adj1 claim*).ab,ti.	19
5	"Exile*".ab,ti.	439
6	"Fugitive*".ab,ti.	298
7	"Displaced person*".ab,ti.	367
8	(Refuge* or Migrant* or Immigrant*).ab,ti.	30892
9	Refugees/	6739
10	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9	33965
11	Detention.ab,ti.	1784
12	"Confin*".ab,ti.	59488
13	(Depriv* adj2 liberty).ab,ti.	61
14	(Detain or Detained).ab,ti.	990
15	(Restrain or Restrained).ab,ti.	10076
16	(Confine or confined).ab,ti.	51654
17	Immigration holding.ab,ti.	0
18	"Imprison*".ab,ti.	1509
19	"Incarcerat*".ab,ti.	6560
20	(Reception adj1 cent*).ab,ti.	92
21	(Asylum adj1 cent*).ab,ti.	35
22	(Accommodation adj1 cent*).ab,ti.	18
23	Temporary protection.ab,ti.	130

24	Retention.ab,ti.	113259
25	(refugee adj1 camp*).ab,ti.	699
26	"Custod*".ab,ti.	2625
27	(Prison* or jail*).ab,ti.	11939
28	11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27	204852
29	10 and 28	1419

### PsycINFO November 2013

#### Ebsco platform

Search number	Terms	Totals
S31	S11 AND S30	745
S30	S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29	73,224
S29	TI jail* AND AB jail*	598
S28	TI Prison* OR AB Prison* OR DE PRISON	16,375
S27	TI Custod* OR AB Custod*	6,118
S26	TI refugee n1 camp* OR AB refugee n1 camp*	318
S25	TI Retention OR AB Retention	29,596
S24	TI Temporary protection OR AB Temporary protection	33
S23	TI Accommodation n1 cent* OR AB Accommodation n1 cent*	16
S22	TI Asylum n1 cent* OR AB Asylum n1 cent*	67
S21	TI Reception n1 cent* OR AB Reception n1 cent*	85
S20	TI Incarcerat* OR AB Incarcerat*	7,673
S19	TI Imprison* OR AB Imprison*	2,601
S18	TI Immigration holding OR AB Immigration holding	3
S17	TI ( Confine or confined ) OR AB ( Confine or confined )	8,260
S16	TI ( Restrain OR Restrained ) OR AB ( Restrain OR Restrained )	3,028
S15	TI ( Detain OR Detained ) OR AB ( Detain OR Detained )	1,159
S14	TI Depriv* N2 liberty OR AB Depriv* N2 liberty	112
S13	TI Confin* OR AB Confin*	10,300

S12	TI Detention OR AB Detention	2,385
S11	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10	12,098
S10	(Refuge* or Migrant* or Immigrant*.ti,ab.) or DE "Refugees"	11,052
S9	TI Displaced person* OR AB Displaced person*	287
S8	TI Fugitive* OR AB Fugitive*	105
S7	TI Exile* OR AB Exile*	833
S6	TI Asylum n1 claim* OR AB Asylum n1 claim*	33
S5	TI Asylum applicant* OR AB Asylum applicant*	14
S4	Asylum n2 appl* OR Asylum n2 appl*	40
S3	TI Asylumseeker* OR AB Asylumseeker*	2
S2	TI Asylum-seeker* OR AB Asylum-seeker*	610
S1	TI asylum n1 seek* OR AB asylum n1 seek*	751

#### Social Care Online

Search number	Terms	Totals
S1		1782

#### Libris May 2011

Search number	Terms	Totals
S1	Resultat av søket: FFT eller Function? og Famil? og Therap?	85

#### Academic Search Premier November 2013

##### EBSCO platform

Search number	Terms	Results
S31	S11 AND S30	3,908
S30	S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29	233,966
S29	TI jail* AND AB jail*	2,680

S28	TI Prison* OR AB Prison* OR DE "IMPRISONMENT"	59,321
S27	TI Custod* OR AB Custod*	10,646
S26	TI refugee n1 camp* OR AB refugee n1 camp*	2,410
S25	TI Retention OR AB Retention	72,962
S24	TI Temporary protection OR AB Temporary protection	232
S23	TI Accommodation n1 cent* OR AB Accommodation n1 cent*	66
S22	TI Asylum n1 cent* OR AB Asylum n1 cent*	126
S21	TI Reception n1 cent* OR AB Reception n1 cent*	198
S20	TI Incarcerat* OR AB Incarcerat*	8,266
S19	TI Imprison* OR AB Imprison*	11,645
S18	TI Immigration holding OR AB Immigration holding	27
S17	TI ( Confine or confined ) OR AB ( Confine or confined )	44,282
S16	TI ( Restrain OR Restrained ) OR AB ( Restrain OR Restrained )	9,148
S15	TI ( Detain OR Detained ) OR AB ( Detain OR Detained )	5,572
S14	TI Depriv* N2 liberty OR AB Depriv* N2 liberty	238
S13	TI Confin* OR AB Confin*	67,301
S12	TI Detention OR AB Detention	9,452
S11	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10	89,046
S10	(Refuge* or Migrant* or Immigrant*.ti,ab.) or DE "Refugees"	72,724
S9	TI Displaced person* OR AB Displaced person*	1,070
S8	TI Fugitive* OR AB Fugitive*	3,731
S7	TI Exile* OR AB Exile*	12,529
S6	TI Asylum n1 claim* OR AB Asylum n1 claim*	260
S5	TI Asylum applicant* OR AB Asylum applicant*	101
S4	Asylum n2 appl* OR Asylum n2 appl*	442
S3	TI Asylumseeker* OR AB Asylumseeker*	4
S2	TI Asylum-seeker* OR AB Asylum-seeker*	2,920
S1	TI asylum n1 seek* OR AB asylum n1 seek*	3,733

Search number	Terms	Totals
s1	Title=(asylum near/1 seek*) AND Topic=(asylum near/1 seek*) Databases=SSCI Timespan=All years	547
s2	Title=(Asylumseeker* or Asylum-seeker*) AND Topic=(Asylumseeker* or Asylum-seeker*) Databases=SSCI Timespan=All years	436
s3	Title=(Asylum applicant*) AND Topic=(Asylum applicant*) Databases=SSCI Timespan=All years	8
s4	Title=((Asylum near/1 claim*)) AND Topic=((Asylum near/1 claim*)) Databases=SSCI Timespan=All years	18
s5	Title=("Exile*") AND Topic=("Exile*") Databases=SSCI Timespan=All years	1,708
s6	Title=(Fugitive*) AND Topic=(Fugitive*) Databases=SSCI Timespan=All years	217
s7	Title=(Displaced person*) AND Topic=(Displaced person*) Databases=SSCI Timespan=All years	167
s8	Title=((Refuge* or Migrant* or Immigrant*)) AND Topic=((Refuge* or Migrant* or Immigrant*)) Databases=SSCI Timespan=All years	23,876
s9	#8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1 Databases=SSCI Timespan=All years	26,183
s10	Title=(Detention) AND Topic=(Detention) Databases=SSCI Timespan=All years	1,054
s11	Title=(Confin*) AND Topic=(Confin*) Databases=SSCI Timespan=All years	733
s12	Title=((Depriv* near/2 liberty)) AND Topic=((Depriv* near/2 liberty)) Databases=SSCI Timespan=All years	37
s13	Title=((Detain or Detained)) AND Topic=((Detain or Detained)) Databases=SSCI Timespan=All years	237
s14	Title=((Restrain or Restrained).) AND Topic=((Restrain or Restrained)) Databases=SSCI Timespan=All years	559
s15	Title=((Confine or confined)) AND Topic=((Confine or confined)) Databases=SSCI Timespan=All years	219
s16	Title=(Immigration holding) AND Topic=(Immigration holding) Databases=SSCI Timespan=All years	12
s17	Title=(Imprison*) AND Topic=(Imprison*) Databases=SSCI Timespan=All years	953
s18	Title=(Incarcerat*) AND Topic=(Incarcerat*) Databases=SSCI Timespan=All years	1,71
s19	Title=((Reception near/1 cent*)) AND Topic=((Reception near/1 cent*)) Databases=SSCI Timespan=All years	20
s20	Title=((Asylum near/1 cent*)) AND Topic=((Asylum near/1 cent*)) Databases=SSCI Timespan=All years	39
s21	Title=((Accommodation near/1 cent*)) AND Topic=((Accommodation near/1 cent*)) Databases=SSCI Timespan=All years	5
s22	Title=(Temporary protection) AND Topic=(Temporary protection) Databases=SSCI Timespan=All years	17

s23	Title=(Retention) AND Topic=(Retention) Databases=SSCI Timespan=All years	6,044
s24	Title=((refugee near/1 camp*)) AND Topic=((refugee near/1 camp*)) Databases=SSCI Timespan=All years	192
s25	Title=("Custod*") AND Topic=("Custod*") Databases=SSCI Timespan=All years	0
s26	Title=((Prison* or jail*)) AND Topic=((Prison* or jail*)) Databases=SSCI Timespan=All years	11,496
s27	#26 OR #25 OR #24 OR #23 OR #22 OR #21 OR #20 OR #19 OR #18 OR #17 OR #16 OR #15 OR #14 OR #13 OR #12 OR #11 OR #10 OR #9 Databases=SSCI Timespan=All years	48,523
s28	#27 AND #9 Databases=SSCI Timespan=All years	26,183

### SocIndex November 13

Search number	Terms	Totals
s1	TI asylum n1 seek* OR AB asylum n1 seek*	2,036
s2	TI Asylum-seeker* OR AB Asylum-seeker*	1,666
s3	TI Asylumseeker* OR AB Asylumseeker*	4
s4	Asylum n2 appl* OR Asylum n2 appl*	234
s5	TI Asylum applicant* OR AB Asylum applicant*	65
s6	TI Asylum n1 claim* OR AB Asylum n1 claim*	160
s7	TI Exile* OR AB Exile*	2,102
s8	TI Fugitive* OR AB Fugitive*	556
s9	TI Displaced person* OR AB Displaced person*	485
s10	(Refuge* or Migrant* or Immigrant*.ti,ab.) or DE "Refugees"	24,576
s11	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10	27,687
s12	TI Detention OR AB Detention	7,316
s13	TI Confin* OR AB Confin*	7,496
s14	TI Depriv* N2 liberty OR AB Depriv* N2 liberty	235
s15	TI ( Detain OR Detained ) OR AB ( Detain OR Detained )	2,049
s16	TI ( Restrain OR Restrained ) OR AB ( Restrain OR Restrained )	1,202
s17	TI ( Confine or confined ) OR AB ( Confine or confined )	4,615
s18	TI Immigration holding OR AB Immigration holding	8
s19	TI Imprison* OR AB Imprison*	7,942
s20	TI Incarcerat* OR AB Incarcerat*	11,827
s21	TI Reception n1 cent* OR AB Reception n1 cent*	222
s22	TI Asylum n1 cent* OR AB Asylum n1 cent*	96
s23	TI Accommodation n1 cent* OR AB Accommodation n1 cent*	35

s24	TI Temporary protection OR AB Temporary protection	100
s25	TI Retention OR AB Retention	5,765
s26	TI refugee n1 camp* OR AB refugee n1 camp*	543
s27	TI Custod* OR AB Custod*	9,286
s28	TI Prison* OR AB Prison* OR DE "IMPRISONMENT"	37,595
s29	TI jail* AND AB jail*	2,114
s30	S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29	72,569
s31	S11 AND S30	1,644

Science citation index. November 2011

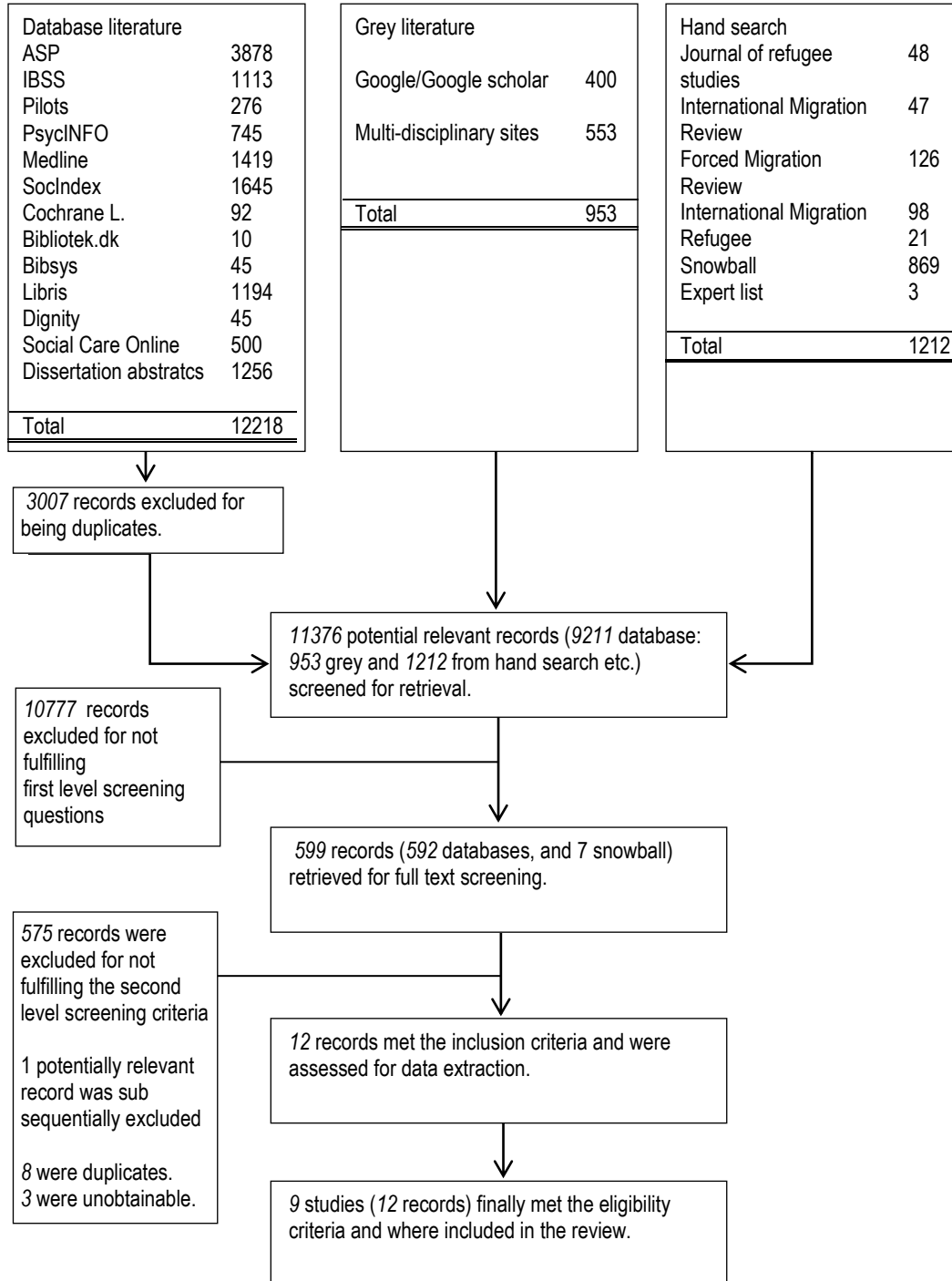
Search number	Terms	Totals
s1	Title=(asylum near/1 seek*) AND Topic=(asylum near/1 seek*) Databases=SCI-EXPANDED Timespan=All years	340
s2	Title=(Asylumseeker* or Asylum-seeker*) AND Topic=(Asylumseeker* or Asylum-seeker*) Databases=SCI-EXPANDED Timespan=All years	304
s3	Title=(Asylum applicant*) AND Topic=(Asylum applicant*) Databases=SCI-EXPANDED Timespan=All years	6
s4	Title=((Asylum near/1 claim*)) AND Topic=((Asylum near/1 claim*)) Databases=SCI-EXPANDED Timespan=All years	2
s5	Title=("Exile*") AND Topic=("Exile*") Databases=SCI-EXPANDED Timespan=All years	172
s6	Title=(Fugitive*) AND Topic=(Fugitive*) Databases=SCI-EXPANDED Timespan=All years	380
7	Title=(Displaced person*) AND Topic=(Displaced person*) Databases=SCI-EXPANDED Timespan=All years	85
s8	Title=((Refuge* or Migrant* or Immigrant*)) AND Topic=((Refuge* or Migrant* or Immigrant*)) Databases=SCI-EXPANDED Timespan=All years	13,556
s9	#8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1 Databases=SCI-EXPANDED Timespan=All years	14,443
s10	Title=(Detention) AND Topic=(Detention) Databases=SCI-EXPANDED Timespan=All years	854
s11	Title=(Confin*) AND Topic=(Confin*) Databases=SCI-EXPANDED Timespan=All years	28,82
s12	Title=((Depriv* near/2 liberty)) AND Topic=((Depriv* near/2 liberty)) Databases=SCI-EXPANDED Timespan=All years	25
s13	Title=((Detain or Detained)) AND Topic=((Detain or Detained)) Databases=SCI-EXPANDED Timespan=All years	213
s14	Title=((Restrain or Restrained.)) AND Topic=((Restrain or Restrained)) Databases=SCI-EXPANDED Timespan=All years	2,95

s15	Title=((Confine or confined)) AND Topic=((Confine or confined)) Databases=SCI-EXPANDED Timespan=All years	16,244
s16	Title=(Immigration holding) AND Topic=(Immigration holding) Databases=SCI- EXPANDED Timespan=All years	0
s17	Title=(Imprison*) AND Topic=(Imprison*) Databases=SCI-EXPANDED Timespan=All years	309
s18	Title=(Incarcerat*) AND Topic=(Incarcerat*) Databases=SCI-EXPANDED Timespan=All years	1,617
s19	Title=((Reception near/1 cent*)) AND Topic=((Reception near/1 cent*)) Databases=SCI-EXPANDED Timespan=All years	24
s20	Title=((Asylum near/1 cent*)) AND Topic=((Asylum near/1 cent*)) Databases=SCI-EXPANDED Timespan=All years	15
s21	Title=((Accommodation near/1 cent*)) AND Topic=((Accommodation near/1 cent*)) Databases=SCI-EXPANDED Timespan=All years	3
s22	Title=(Temporary protection) AND Topic=(Temporary protection) Databases=SCI-EXPANDED Timespan=All years	102
s23	Title=(Retention) AND Topic=(Retention) Databases=SCI-EXPANDED Timespan=All years	37,784
s24	Title=((refugee near/1 camp*)) AND Topic=((refugee near/1 camp*)) Databases=SCI-EXPANDED Timespan=All years	221
s25	Title=("Custod*") AND Topic=("Custod*") Databases=SCI-EXPANDED Timespan=All years	0
s26	Title=((Prison* or jail*)) AND Topic=((Prison* or jail*)) Databases=SCI- EXPANDED Timespan=All years	5,393
s27	#26 OR #25 OR #24 OR #23 OR #22 OR #21 OR #20 OR #19 OR #18 OR #17 OR #16 OR #15 OR #14 OR #13 OR #12 OR #11 OR #10 OR #9 Databases=SCI-EXPANDED Timespan=All years	92,325
s28	#27 AND #9 Databases=SCI-EXPANDED Timespan=All years	14,443



## 11.2 FLOW CHART FOR LITERATURE SEARCH

Figure 1



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### **11.3 FIRST AND SECOND LEVEL SCREENING**

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In the first screening level a citation was only moved on to the second screening level if the answer was a 'yes' or 'uncertain' for the following criteria; (1) Does the study focus on the detention of asylum seekers? (2) Are the participants detained asylum seekers? (3) Is the report/article a quantitative evaluation study?

In the second screening level eligibility inclusion criteria was extended to the following; (4) Does the study compare detained asylum seekers with non-detained peers?

OUTCOME DATA

DICHOTOMOUS OUTCOME DATA

OUTCOME	TIME POINT (s) (record exact time from participation, there may be more than one, record them all)	SOURCE	VALID Ns	CASES	NON-CASES	STATISTICS	Pg. # & NOTES
		Questionnaire Admin data Other (specify) Unclear	Participation	Participation	Participation	RR (risk ratio) OR (odds ratio) SE (standard error) 95% CI DF	
			Comparison	Comparison	Comparison	P- value (enter exact p value if available) Chi2 Other	

Repeat as needed

OUTCOME DATA

TIME-TO-EVENT OUTCOME DATA

OUTCOME	TIME POINT (s) (record exact time from participation, there may be more than one, record them all)	SOURCE	STATISTICS	Pg. # & NOTES
		Questionnaire Admin data Other (specify) Unclear	HR (hazard ratio) SE (standard error) 95% CI DF  P- value (enter exact p value if available) Chi2 Other	

---

Repeat as needed

CONTINUOUS OUTCOME DATA

OUTCOME	TIME POINT (s) (record exact time from participation, there may be more than one, record them all)	SOURCE (specify)	VALID Ns	Means	SDs	STATISTICS	Pg. # & NOTES
		Questionnaire Admin data Other (specify) Unclear	Participation	Participation	Participation	P t F Df ES Other	
			Comparison	Comparison	Comparison		

\*Repeat as need

## 11.4 ASSESSMENT OF RISK OF BIAS IN INCLUDED STUDIES

*Risk of bias table*

Item	Judgement <sup>a</sup>	Description (quote from paper, or describe key information)
1. Sequence generation		
2. Allocation concealment		
3. Confounding <sup>b,c</sup>		
4. Blinding? <sup>b</sup>		
5. Incomplete outcome data addressed? <sup>b</sup>		
6. Free of selective reporting? <sup>b</sup>		
7. Free of other bias?		
8. <i>A priori</i> protocol? <sup>d</sup>		
9. <i>A priori</i> analysis plan? <sup>e</sup>		

<sup>a</sup> Some items on low/high risk/unclear scale (double-line border), some on 5 point scale/unclear (single line border), some on yes/no/unclear scale (dashed border). For all items, record “unclear” if inadequate reporting prevents a judgement being made.

<sup>b</sup> For each outcome in the study.

<sup>c</sup> This item is only used for NRCTs and NRSs. It is based on list of confounders considered important at the outset and defined in the protocol for the review (*assessment against worksheet*).

<sup>d</sup> Did the researchers write a protocol defining the study population, intervention and comparator, primary and other outcomes, data collection methods, etc. in advance of starting the study?

e Did the researchers have an analysis plan defining the primary and other outcomes, statistical methods, subgroup analyses, etc. in advance of starting the study?

### *Risk of bias tool*

Studies for which RoB tool is intended

The risk of bias model was developed by Prof. Barnaby Reeves in association with the Cochrane Non-Randomised Studies Methods Group.<sup>11</sup> This model, an extension of the Cochrane Collaboration's risk of bias tool, covers risk of bias in both randomised controlled trials (RCTs and QRCTs) and in non-randomised studies (NRCTs and NRSs).

The point of departure for the risk of bias model is the Cochrane Handbook for Systematic Reviews of interventions (Higgins & Green, 2011). The existing Cochrane risk of bias tool needs elaboration when assessing non-randomised studies because, for non-randomised studies, particular attention should be paid to selection bias / risk of confounding. Additional item on confounding is used only for non-randomised studies (NRCTs and NRSs) and is not used for randomised controlled trials (RCTs and QRCTs).

### *Assessment of risk of bias*

Issues when using modified RoB tool to assess included non-randomised studies:

- Use existing principle: score judgement and provide information (preferably direct quote) to support judgement
- Additional item on confounding used only for non-randomised studies (NRCTs and NRSs).
- 5-point scale for some items (distinguish “unclear” from intermediate risk of bias).
- Keep in mind the general philosophy – assessment is not about whether researchers could have done better but about risk of bias; the assessment tool must be used in a standard way whatever the difficulty / circumstances of investigating the research question of interest and whatever the study design used.
- Anchors: “1/No/low risk” of bias should correspond to a high quality RCT. “5/high risk” of bias should correspond to a risk of bias that means the findings should not be considered (too risky, too much bias, more likely to mislead than inform)

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<sup>11</sup> This risk of bias model was introduced by Prof. Reeves at a workshop on risk of bias in non-randomised studies at SFI Campbell, February 2011. The model is a further development of work carried out in the Cochrane Non-Randomised Studies Method Group (NRSMG).

## 1. Sequence generation

- Low/high/unclear RoB item
- Always high RoB (not random) for a non-randomised study
- Might argue that this item redundant for NRS since always high – but important to include in RoB table ('level playing field' argument)

## 2. Allocation concealment

- Low/high/unclear RoB item
- Potentially low RoB for a non-randomised study, e.g. quasi-randomised (so high RoB to sequence generation) but concealed (reviewer judges that the people making decisions about including participants didn't know how allocation was being done, e.g. odd/even date of birth/hospital number)

## 3. RoB from confounding (additional item for NRCT and NRS; assess for each outcome)

- Assumes a pre-specified list of potential confounders defined in the protocol
- Low(1) / 2 / 3 / 4 / high(5) / unclear RoB item
- Judgement needs to factor in:
  - proportion of confounders (from pre-specified list) that were considered
  - whether most important confounders (from pre-specified list) were considered
  - resolution/precision with which confounders were measured
  - extent of imbalance between groups at baseline
  - care with which adjustment was done (typically a judgement about the statistical modelling carried out by authors)
- Low RoB requires that all important confounders are balanced at baseline (not primarily/not only a statistical judgement OR measured 'well' and 'carefully' controlled for in the analysis).

Assess against pre-specified worksheet. Reviewers will make a RoB judgement about each factor first and then 'eyeball' these for the judgement RoB table.

## 4. RoB from lack of blinding (assess for each outcome, as per existing RoB tool)

- Low(1) / 2 / 3 / 4 / high(5) / unclear RoB item
- Judgement needs to factor in:
  - nature of outcome (subjective / objective; source of information)
  - who was / was not blinded and the risk that those who were not blinded could introduce performance or detection bias
  - see Ch.8 in the Cochrane Handbook for Systematic Reviews of interventions (Higgins & Green, 2011).



5. RoB from incomplete outcome data (assess for each outcome, as per existing RoB tool)

- Low(1) / 2 / 3 / 4 / high(5) / unclear RoB item
- Judgement needs to factor in:
  - reasons for missing data
  - whether amount of missing data balanced across groups, with similar reasons
  - whether censoring is less than or equal to 25% and taken into account
  - see Ch.8

6. RoB from selective reporting (assess for each outcome, NB different to existing Ch.8 recommendation)

- Low(1) / 2 / 3 / 4 / high(5) / unclear RoB item
- Judgement needs to factor in:
  - existing RoB guidance on selective outcome reporting (see Ch.8)
  - also, extent to which analyses (and potentially other choices) could have been manipulated to bias the findings reported, e.g. choice of method of model fitting, potential confounders considered / included
  - look for evidence that there was a protocol in advance of doing any analysis / obtaining the data (difficult unless explicitly reported); NRS very different from RCTs. RCTs must have a protocol in advance of starting to recruit (for REC/IRB/other regulatory approval); NRS need not (especially older studies)
  - Hence, separate yes/no items asking reviewers whether they think the researchers had a pre-specified protocol and analysis plan.

7. RoB from other bias (assess for each outcome, NB different to existing Ch.8 recommendation)

- Low(1) / 2 / 3 / 4 / high(5) / unclear RoB item
- Judgement needs to factor in:
  - existing RoB guidance on other potential threats to validity (see Ch.8)
  - also, assess whether suitable cluster analysis is used (e.g. cluster summary statistics, robust standard errors, the use of the design effect to adjust standard errors, multilevel models and mixture models), if assignment of units to treatment is clustered

*Confounding Worksheet*

Assessment of how researchers dealt with confounding	
Method for <i>identifying</i> relevant confounders described by researchers: yes no  If yes, describe the method used:	<input type="checkbox"/> <input type="checkbox"/>
Relevant confounders described: yes no  List confounders described on next page	<input type="checkbox"/> <input type="checkbox"/>
Method used for controlling for confounding  At design stage (e.g. matching, regression discontinuity, instrument variable):  .....  .....  .....  At analysis stage (e.g. stratification, regression, difference-in difference):  .....  .....  .....  Describe confounders controlled for below	

*Confounders described by researchers*

Tick (yes[0]/no[1] judgement) if confounder considered by the researchers  
[Cons'd?]

Score (1[good precision] to 5[poor precision]) precision with which confounder measured

Score (1[balanced] to 5[major imbalance]) imbalance between groups

Score (1[very careful] to 5[not at all careful]) care with which adjustment for confounder was carried out

Confounder	Considered	Precision	Imbalance	Adjustment
Gender	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unobservables <sup>12</sup>	<input type="checkbox"/>	Irrelevant	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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<sup>12</sup> See user guide for unobservables

### *User guide for unobservables*

Selection bias is understood as systematic baseline differences between groups and can therefore compromise comparability between groups. Baseline differences can be observable (e.g. age and gender) and unobservable (to the researcher; e.g. motivation and ‘ability’). There is no single non-randomised study design that always solves the selection problem. Different designs solve the selection problem under different assumptions and require different types of data. Especially how different designs deal with selection on unobservables varies. The “right” method depends on the model generating participation, i.e. assumptions about the nature of the process by which participants are selected into a programme.

As there is no universal correct way to construct counterfactuals we will assess the extent to which the identifying assumptions (the assumption that makes it possible to identify the counterfactual) are explained and discussed (preferably the authors should make an effort to justify their choice of method). We will look for evidence that authors using e.g. (this is NOT an exhaustive list):

#### *Natural experiments:*

Discuss whether they face a truly random allocation of participants and that there is no change of behaviour in anticipation of e.g. policy rules.

#### *Instrument variable (IV):*

Explain and discuss the assumption that the instrument variable does not affect outcomes other than through their effect on participation.

#### *Matching (including propensity scores):*

Explain and discuss the assumption that there is no selection on unobservables, only selection on observables.

#### *(Multivariate, multiple) Regression:*

Explain and discuss the assumption that there is no selection on unobservables, only selection on observables. Further discuss the extent to which they compare comparable people.

#### *Regression Discontinuity (RD):*

Explain and discuss the assumption that there is a (strict!) RD treatment rule. It must not be changeable by the agent in an effort to obtain or avoid treatment. Continuity in the expected impact at the discontinuity is required.

#### *Difference-in-difference (Treatment-control-before-after):*

Explain and discuss the assumption that outcomes of participants and nonparticipants evolve over time in the same way.

## 12 Data appendices

### 12.1 DATA EXTRACTION

Prior trauma exposures: Treated/Comparison. Based on the Harvard Trauma Questionnaire

Prior trauma	Thompson 1998	Ichikawa 2006	Steel 2006	Cleveland 2013
Torture	72/26	67	18/12	43/29
Combat	40/23	80	15/8	27/39
Forced isolation	84/46	80	14/6	43/29
Forced separation from family and friends	-	80	26/11	65/68
Being close to death	88/40	82	76/29	90/92
Murder of family/friends	92/39	67	75/61	46/53
Witness murder of strangers	96/46	-	49/32	43/36
Serious injury	-	-	14/9	39/35
Imprisonment	-	-	37/15	32/21
Mean number of trauma exposures	15/7	9.9/9.5	5.3/3.1	9.3/9.2
Beaten and assaulted	-	-	-	67/76
Family member's health or safety seriously threatened	-	-	-	66/71
Threats or harassment by government or other organized groups	-	-	-	66/64
Family or friends assaulted	-	-	-	60/70
Lack of food or water	-	-	46/23	45/41
Unnatural death or disappearance of family or friends	-	-	79/62	44/53
Illness without access to medical care	-	-	38/16	40/30

<b>Family or friends imprisoned or tortured</b>	-	-	-	39/39
<b>Lack of shelter</b>	-	-	19/11	31/24
<b>Kidnapped</b>	-	-	11/6	23/17
<b>Rape or sexual abuse</b>	-	-		20/29
<b>Brainwashing</b>	-	-	13/6	-

Prior trauma exposures: Treated/Comparison. Based on the Post-traumatic diagnostic scale (Robjant 2009); a testimony method (Thompson 2011)

<b>Prior trauma exposure/experiences</b>	<b>Robjant 2009</b>	<b>Thompson 2011</b>
<b>Torture</b>	39/20	45/68
<b>Combat</b>	43/35	21/21
<b>Serious physical injury</b>		0/65
<b>Nonsexual assault<sup>1*</sup></b>	46/28	62/47
<b>Sexual assault<sup>2</sup></b>	21/15	26/33
<b>Imprisonment</b>	43/24	52/12
<b>Kidnapped</b>	-	19/3
<b>Accident/fire/explosion/natural disaster<sup>3</sup></b>	39/31	5/47
<b>Life-threatening illness</b>	13/17	-
<b>Threat to life*</b>	-	93/53
<b>Murder of family/friends*</b>	-	90/47
<b>Disappearance of family/friends*</b>	-	88/26
<b>Relative in jail as political prisoner</b>	-	50/65
<b>Seeing loss of life*</b>	-	88/68
<b>Witnessed violence in mass demonstrations*</b>	-	62/23
<b>Search as result of organised violence*</b>	-	88/59
<b>Forced displacement *</b>	-	95/6
<b>Lived in refugee camps</b>		5/59
<b>Other traumatic event</b>	54/37	-

<b>Mean number of trauma exposures</b>	2.99/2.17	All are either tortured or have experienced at least two specific traumatic events (marked with *)
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1: In Robjant 2009 this item is divided into two categories: committed by a known assailant respectively by a stranger.  
 2: In Robjant 2009 this item is divided into two categories: committed by a known assailant respectively by a stranger. In Thompson 2011 this item is divided into three categories: Experienced rape, Witnessed rape family (forced within family) and Witnessed rape family (done) respectively.

3: In Robjant 2009 this item is divided into two categories: Accident/fire/explosion respectively natural disaster



### 12.1.1 Numeric data

Author	Thompson 1998	Robjant 2009	Ichikawa 2006
Type of outcome	Continuous	Continuous	Continuous
Outcome (there may be more than one, record them all)	Suicide, PTSD, panic, somatic stress, depression and anxiety	Depression, anxiety and posttraumatic disturbance	Anxiety, depression and PTSD
Time Point (s) (record the exact time, there may be more than one, record them all)	While in detention (15/25) and within one month of being discharged (10/25)	While in detention	10 months since release
Source (questionnaire, admin data, other(specify) or unclear)	Questionnaire (The Harvard Trauma Questionnaire; the Depression, Anxiety and Somatization Scales of the Hopkins Symptom Checklist; the Four Measures of Mental Health Panic Scale)	Questionnaire: the Hospital Anxiety and Depression scale (HADS (D and A)) and the impact of event scale-revised (IES-R).	Hopkins Symptoms Checklist-25 (HSCL-25) and Harvard Trauma Questionnaire (HTQ)
Valid Ns (only applicable for continuous outcome data). Mention treatment and comparison.	T:25; C:62	T:67; C:49	T: 18; C: 37
Method of estimation	None	None	Multiple linear regression

<b>Statistics (risk ratio, odds ratio, standard error, 95 cf, DF, p-value, chi2)</b>	Mean difference between detained and asylum seekers (SE): suicide: 2.3561 (0.2786); PTSD: 1.32907 (0.1910); panic: 0.85290 (0.1469); somatic distress: 1.9358065 (0.1940); depression: 1.8995037 (0.2563); anxiety: 2.1985806 (0.2405).	Mean scores (SD, N): depression: T: 13.54 (4.58, 66), C: 9.24 (3.85, 42); anxiety: T: 14.08 (4.98, 65), C: 11.12 (5.98, 45); posttraumatic disturbance: T: 68.02 (20.23, 42), C: 54.35 (25.69, 30).	Unstandardized coefficient (95% CI): Anxiety: 0.68 (0.18, 1.17); depression: 0.43 (0.03, 0.83); PTSD: 0.47 (0.03, 0.91)
<b>Page numbers and notes</b>	Mean score figures page 30, no SD, mean difference and SE provided by Steel	table 2 page 281	table 3 page 344

Author	Steel 2006	Momartin 2006	Steel 2011 (Follow up to Momartin 2006)
<b>Type of outcome</b>	Dichotomous	Continuous	Continuous
<b>Outcome (there may be more than one, record them all)</b>	Depression, PTSD and Mental health related disability	Anxiety, depression, PTSD, distress, mental health and physical health	Anxiety, depression, PTSD, distress, excessive worry, living difficulties, social activities and English language proficiency
<b>Time Point (s) (record the exact time, there may be more than one,</b>	Mean time since release: 35.5 months	Mean time since release: 3.6 months	On average 26.3 months after release

<b>record them all)</b>			
<b>Source (questionnaire, admin data, other(specify) or unclear)</b>	Hopkins Symptoms Checklist-25 (HSCL-25) and Harvard Trauma Questionnaire (HTQ) and The Medical Outcomes Study – Short Form (SF-12) the mental health status and disability (Mental Component Score; MCS)	Hopkins Symptoms Checklist-25 (HSCL-25) anxiety and depression, Harvard Trauma Questionnaire (HTQ), General Health Questionnaire (GHQ-30) and The Medical Outcomes Study – Short Form (SF-12) the Mental Component Score (MCS) and the Physical component summary (PCS)	Hopkins Symptoms Checklist-25 (HSCL-25) anxiety and depression, Harvard Trauma Questionnaire (HTQ), General Health Questionnaire (GHQ-30), The Penn State Worry Questionnaire (PSWQ), The Post-Migration Living Difficulties (PMLD) checklist, a list of 13 activities to cope with life difficulties they were experiencing (the list of activities was identified through key informant interviews with Early Intervention Program (EIP) staff), the speaking scale of the self-report version of the International Second Language Proficiency Rating Scale (ISLPR)
<b>Valid Ns (only applicable for continuous outcome data) . Mention treatment and comparison.</b>		T: 49; C: 67	T: 47; C: 57
<b>Cases (only applicable for Dichotomous outcome data) Mention treatment and comparison.</b>	T: 64, 60, 71; C: 22, 9, 22		

<b>Non-cases (only applicable for dichotomous outcome data) Mention treatment and comparison.</b>	T: 86, 90, 79; C: 69, 82, 69		
<b>Method of estimation</b>	None	None	ANCOVA
<b>Statistics (risk ratio, odds ratio, standard error, 95 cf, DF, p-value, chi2)</b>	Cases: 'T: 64, 60, 71; C: 22, 9, 22; Non-cases: 'T: 86, 90, 79; C: 69, 82, 69	Mean score (95% CI): Anxiety: T: 2.47 (2.29-2.66), C: 2.00 (1.83-2.17); Depression: T: 2.61 (2.38-2.85), C: 2.08 (1.91-2.26); PTSD: T: 2.94 (2.82-3.06), C: 1.76 (1.65-1.86); Distress: T: 78.12 (71.67-84.57), C: 65.84 (60.72-70.95); OBS The lower the score the more disability for MCS and PCS) MCS: T: 43.08 (40.91-45.26), C: 46.32 (45.26-47.38); PCS: T: 50.52 (47.76-53.28), C: 47.11 (44.98-49.23)	Time 2: Age adjusted means (SE): PTSD: T: 2.98 (0.049) C: 2.02 (0.045), Depression: T: 2.95 (0.061) C: 1.83 (0.055), Anxiety: T: 3.15 (0.072) C: 1.66 (0.066), Distress: T: 3.47 (0.084) C: 1.65 (0.076), Excessive worry: T: 3.23 (0.131) C: 2.59 (0.120), Living difficulties: T: 19.72 (0.40) C: 1.45 (0.365), Social activities: T: 2.48 (0.11) C: 3.26 (0.097), English language proficiency: T: 0.56 (0.35) C: 5.51 (0.316). Time 1 Age adjusted means (SE): PTSD: T: 2.97 (0.062) C: 1.73 (0.057), Depression: T: 2.71 (0.110) C: 2.02 (0.101), Anxiety: T: 2.55 (0.095) C: 1.99 (0.087), Distress: T: 2.69 (0.102) C: 2.13 (0.094), Excessive worry: T: 2.64 (0.065) C: 2.48 (0.06), Living difficulties: T: 18.91 (0.389) C: 1.47 (0.35), Social activities: T: 2.89 (0.119) C: 3.09 (0.11), English language proficiency: T: 0.75 (0.133) C: 0.21 (0.12)
<b>Page numbers and notes</b>	Prevalence (%) figure 2 page 61	Table 4 page 360	Table 2 page 1153

<b>Author</b>	<b>Cleveland 2013</b>	<b>Thompson 2011</b>	<b>Johnston 2009</b>
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Type of outcome	Continuous	Continuous and PTSD dichotomous as well	Continuous, depression dichotomous
Outcome (there may be more than one, record them all)	PTSD, depression and anxiety	PTSD, somatization, OCD, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, general mental health, intrusion, avoidance and social, occupational and psychosocial functioning (Global Assessment of Functioning, GAF)	Depression, distress, general health, physical functioning, personal wellbeing, social support (only median reported), perceived constraints, anger (mean reported for Trait-Anger)
Time Point (s) (record the exact time, there may be more than one, record them all)	While in detention	While in detention	Mean time in community is 42.6 months
Source (questionnaire, admin data, other(specify) or unclear)	Harvard Trauma Questionnaire (HTQ) and Hopkins Symptoms Checklist-25 (HSCL-25)	The Structured Interview for Post-Traumatic Stress Disorder (SI-PTSD) was designed to diagnose PTSD based on the DSM-III-R (APA, 1987) criteria. Social, occupational and psychosocial functioning measured by the Global Assessment of Functioning-M (GAF-M), intrusion and avoidance measured by the Impact of Event Scale (IES), the remaining measured by the Self-Report Symptom Checklist Revised (SCL-90-R)	Self-reported physical health (SF-36 General Health Scale; SF-36 Physical Functioning Scale), psychological health (Hopkins Symptom Checklist-25; HSCL-25) and personal wellbeing (Personal Wellbeing Index; PWBI), Medical Outcomes Study Social Support Scale (MOS-SS), the Perceived Constraints subscale of the Lachman and Weaver Sense of Control Scale, and the State-Trait Anger Expression Inventory (STAXI)
Valid Ns (only applicable for continuous outcome data) . Mention treatment and comparison.	T: 122; C: 66	T: 42 C: 34	T: 70, C: 60
Method of estimation	Hierarchical regression	None	Linear regression for distress, otherwise none
Statistics (risk ratio, odds ratio, standard error, 95 cf, DF, p-value, chi2)	Unstandardized coefficient (SE): PTSD: 0.242 (0.092); depression: 0.258 (0.099)	PTSD, percent: T: 35%, C (only asylum seekers in community): 25%, PTSD mean (SD): T: 2.29 (0.51) C: 2.22 (0.88), somatization T: 1.31 (0.62)	Depression %: T: 46%, C: 25%, distress (unstandardised coefficient (95% CI): 0.5 (0.3-0.71), general health/physical functioning/personal wellbeing/perceived constraints/Trait-Anger mean (SD): T: 55.5 (26.5)

	and anxiety: 0.246 (0.108)	C: 1.4 (0.96), OCD: T: 1.31 (0.42) C: 1.92 (0.96), interpersonal sensitivity: 0.93 (0.44) C: 1.6 (1.11), depression: T: 2.15 (0.91) C: 2.12 (1.07), anxiety: T: 1.07 (0.55) C: 1.91 (1.18), hostility: T: 0.6 (0.36) C: 1.16 (1.0), phobic anxiety: T: 0.51 (0.37) C: 1.6 (1.13), paranoid ideation: T: 1.15 (0.55) C: 1.55 (1.11), psychoticism: T: 0.45 (0.32) C: 1.19 (0.88), general mental health: T: 1.2 (0.44) C: 1.64 (0.95), intrusion: T: 19.83 (4.01) C: 20.82 (7.32), avoidance: T: 19.6 (4.7) C: 22.7 (6.5) and social, occupational and psychosocial functioning: T: 62.76 (6.39) C: 63.47 (16.4)	C: 59 (21.9)/T: 70.5 (30.4) C: 72 (28.5)/T: 53.2 (22.2) C: 67 (17.2)/T:4.6 (1.3) C: 4 (1.2)/T: 21.8 (7.1) C: 20.7 (5.2)
Page numbers and notes	Table 3 page 414	Table 8.13 page 210 and table 8.17 page 218	Table 4, 5 and 6 page 6-7

## 12.2 RISK OF BIAS

### 12.2.1 Risk of bias summary

Table 12.2

Author	Thompson 1998	Robjant 2009	Ichikawa 2006
Sequence generation (Judgement)	High	High	High
Allocation concealment (Judgement)	High	High	High
Blinding (Judgement)	4	4	4
Incomplete outcome data addressed (Judgement)	Unclear	1	1
Incomplete outcome data addressed (Description, quote from paper or describe key information)	NR	Level low and: "Where data were missing for individual questionnaire items which were part of a subscale score, they were replaced with the mean. This occurred in all cases except where missing items were in excess of 20% of the total number of subscale items. However, as 20% usually constituted between one and two items, the more conservative option was chosen. Cases where missing data constituted greater levels were excluded."	Very low level, two missing age, one missing PTSD outcome and one missing time since arrival
Free of selective reporting (Judgement)	3	1	1

<b>Free of selective reporting (Description, quote from paper or describe key information)</b>	Statistical procedures were used to allow comparisons between detained and non-detained, holding constant the pre-migration trauma level. Results not reported other than: "After removing differences due to trauma, detained asylum seekers continued to display higher scores on all measures of psychological distress compared to other asylum seekers living in the community." Page 30.		
<b>Free of other bias (Judgement)</b>	1	1	1
<b>A priori protocol (Judgement)</b>	Unclear	Yes	Unclear
<b>A priori protocol (Description, quote from paper or describe key information)</b>	Home office approval of access and ethical approval for the study		
<b>A priori analysis plan</b>	Unclear	Yes	Unclear
<b>A priori analysis plan (Description, quote from paper or describe key information)</b>	State hypotheses on page 277		
<b>Confounding (Judgement)</b>	5	3	1
<b>Confounding (Description, quote from paper or describe key information)</b>	The Tamil Asylum seekers detained reported over twice the level of exposure to war related trauma experiences compared to compatriot asylum seekers and refugees living in the community.	Nothing controlled for but only minor or no imbalances. Little is known about why people are detained or for how long.	In Japan, detention may occur at the time of applying for refugee status or in the refugee determination process, that is, during the interview or domiciliary visit by the immigration



	The data raises the possibility that asylum seekers who have suffered the most severe persecution are at increased risk of being detained on arrival in Australia.		authority to investigate the reason for their undocumented status. However, in practice, not all asylum seekers are detained. The criteria for detention are unclear and whether or not an asylum seeker is detained is unpredictable.
<b>Method for identifying relevant confounders described by researchers. Yes/No - if Yes describe the method used.</b>	None	None	None
<b>Relevant confounders described (See relevant sheet and list confounders and note if they were considered, precise, imbalanced or adjusted)</b>	All, except gender and age	All, except time since arrival	Yes, and more is added
<b>Method used for controlling for confounding (At design state)</b>	None	None	Multiple linear regression
<b>Method used for controlling for confounding (At analysis stage)</b>	None	None	Multiple linear regression
<b>Author</b>	<b>Steel 2006</b>	<b>Momartin 2006</b>	<b>Steel 2011 (Follow up to Momartin 2006)</b>

<b>Sequence generation (Judgement)</b>	High	High	High
<b>Allocation concealment (Judgement)</b>	High	High	High
<b>Blinding (Judgement)</b>	4	4	4
<b>Incomplete outcome data addressed (Judgement)</b>	Unclear	2	2
<b>Incomplete outcome data addressed (Description, quote from paper or describe key information)</b>	NR	Not reported but in Steel et al 2011 it is reported: Estimates for the baseline study indicated that over 70% of TPV (detained) holders from Afghanistan and Iran speaking the dialects of Dari and Farsi respectively, were enrolled in the study. The coverage of PPV holders (non-detained) from Afghanistan and Iran speaking the dialects of Farsi or Dari arriving was high (estimated at 83% of those arriving in NSW during the study period).	Follow up rate 89.7%. The 12 respondents, who could not be contacted at follow-up, included more females and proportionately more PPV holders. The retained group and those lost to follow-up were similar in their baseline symptom scores for all outcomes at Time 1
<b>Free of selective reporting (Judgement)</b>	1	1	1
<b>Free of selective reporting (Description, quote from paper or describe key information)</b>		States that there are no significant differences in pre-migration trauma but data not reported. Data reported in Steel 2011	
<b>Free of other bias (Judgement)</b>	1	1	1
<b>A priori protocol (Judgement)</b>	Yes	Yes	Yes

<b>A priori protocol (Description, quote from paper or describe key information)</b>	Approval for the study was obtained from the South West Sydney Area Health Service Human Ethics Committee.	The Human Research Ethics Committee of the then South Western Sydney Area Health Service approved the study. Participants were provided with an information sheet in the appropriate dialect detailing the aims of the study, and all signed consent forms	Ethics review and approval for the study was obtained from the Sydney South West Area Health Service.
<b>A priori analysis plan</b>	Unclear	Yes	Unclear
<b>A priori analysis plan (Description, quote from paper or describe key information)</b>			
<b>Confounding (Judgement)</b>	5	5	5
<b>Confounding (Description, quote from paper or describe key information)</b>	The data raises the possibility that asylum seekers who have suffered the most severe persecution are at increased risk of being detained on arrival in Australia (arriving by boat or without entry documents) The higher levels of trauma reported by holders of temporary protection visas (arriving after 1999) who have arrived more recently in Australia was consistent with a history of escalating violence and persecution directed at the Mandaean group in Iraq in the lead-up to the 2003 war. Besides among the detained there is 81% with Temporary Protection visas (TPV) and 19% with Permanent Protection visas (PPV), in the comparison group it is 17% with TPV and 83% with PPV	Since all TPVs and no PPVs had been held in immigration detention prior to release into the community, it is not possible to examine for the unique contribution of detention in this study. Previous research undertaken with Mandaean Iraqi refugees subject to detention alone or detention and subsequent TPV status supported a model in which both detention and TPV status were associated with a similar and additive adverse impact on mental health status (Steel et al., 2006).	See Momartin 2006
<b>Method for identifying relevant confounders described by researchers.</b>	None	None	None

<b>Yes/No - if Yes describe the method used.</b>			
<b>Relevant confounders described (See relevant sheet and list confounders and note if they were considered, precise, imbalanced or adjusted)</b>	All, except gender and age	Yes and more is added	Yes and more is added
<b>Method used for controlling for confounding (At design state)</b>	None	Multiple linear regression	Unclear
<b>Method used for controlling for confounding (At analysis stage)</b>	None	None we can use (Multiple linear regression analysis is applied but only standardized coefficients and P-level (not exact value) is reported	Age adjusted means

<b>Author</b>	<b>Cleveland 2013</b>	<b>Thompson 2011</b>	<b>Johnston 2009</b>
<b>Sequence generation (Judgement)</b>	High	High	High
<b>Allocation concealment (Judgement)</b>	High	High	High
<b>Blinding (Judgement)</b>	4	4	4
<b>Incomplete outcome data addressed (Judgement)</b>	1	Unclear	Unclear

<b>Incomplete outcome data addressed (Description, quote from paper or describe key information)</b>	There were 13 refusals for a response rate of 90.4% in the detained group. In the non-detained group, all of those referred accepted to participate	Of those invited to participate from the detention centre 58% agreed to participate, comparison not reported. The final included control sample was selected based upon being either a survivor of torture or a survivor of other types of systemic abuse defined as meeting at least two specified traumatic experiences (page 162). Numbers excluded based on these selection criteria's is not reported.	Nothing reported regarding response rate
<b>Free of selective reporting (Judgement)</b>	1	2	1
<b>Free of selective reporting (Description, quote from paper or describe key information)</b>		Numbers excluded from the comparison group based on the selection criteria's is not reported.	
<b>Free of other bias (Judgement)</b>	1	1	1
<b>A priori protocol (Judgement)</b>	Yes	Yes	Unclear
<b>A priori protocol (Description, quote from paper or describe key information)</b>	The protocol was approved by the Research Ethics Boards of the McGill University Faculty of Medicine and other participating institutions	The research reported in the thesis was conducted in accordance with the principles for the ethical treatment of human subjects as approved for this research by the Research and Ethics Committees of Royal Park Hospital, Office of Psychiatric Services, Health Department Victoria on January 1993.	
<b>A priori analysis plan</b>	Yes	Unclear	Unclear

<b>A priori analysis plan (Description, quote from paper or describe key information)</b>			
<b>Confounding (Judgement)</b>	1	5	5
<b>Confounding (Description, quote from paper or describe key information)</b>	By interviewing two groups of asylum seekers who were similar in all respects except that one group had been detained and the other not, we were able to identify the impact of detention on their mental health. Over 95% of asylum seekers who are detained are held because an immigration officer is not satisfied as to their identity or believes that they may not appear for an immigration procedure. Less than 5% of detained asylum seekers are even suspected of criminality, security risk or danger to the public	No adjustment for confounding and some large imbalances on confounders, such as for example torture and several other traumatic events and gender. A possible highly selective sample as the comparison group had to meet the criteria of being either a torture survivor or survivor of other systemic abuse.	No adjustment for confounding (except distress) but no severe imbalances in confounders. Compares Temporary Protection Visa (TPV) holders to Permanent Humanitarian Visa (PPV) holders (individuals entering via Australia's offshore humanitarian program have their refugee status established and PHVs issued prior to arrival in Australia). Nearly all TPVs (97%) and almost no PHVs (7%) had been held in immigration detention prior to release into the community. (Information kindly provided by Professor Johnston per e-mail 12.03 2014) It is not possible to examine for the unique contribution of detention in this study.
<b>Method for identifying relevant confounders described by researchers. Yes/No - if Yes describe the method used.</b>	None	None	Factors previously identified as predictors of psychological health among resettling refugees (page 6)
<b>Relevant confounders described (See relevant sheet and list confounders)</b>	Yes	Yes and more is added	Yes and more is added

<b>and note if they were considered, precise, imbalanced or adjusted)</b>			
<b>Method used for controlling for confounding (At design state)</b>	Hierarchical regression	None, on the contrary, it is a selective group	None
<b>Method used for controlling for confounding (At analysis stage)</b>	Hierarchical regression	None	None except linear regression for distress

## 12.3 SAMPLING TECHNIQUES

Table 12.3

Study	Sampling techniques
<b>Thompson 1998</b>	Opportunity sampling: Comparison: Information about the study was provided through legal aid and resettlement services, ethnic radio stations, newspapers, newsletters, magazines and community meetings. It was emphasized that the research team was independent of any government department, and anonymity of responses was assured. All adult Tamils were invited to participate, irrespective of their residency status. Legal agencies in contact with asylum-seekers and the Ealam Tamil Association agreed to mail questionnaires to their clients or membership without revealing individuals' names to the researchers. The Ealam Tamil Association provides a focus for cultural and social support for the Tamil community, and its membership is not limited to any particular sector or political faction. (Silove et al., 1998). Treated: Tamils from Sri Lanka detained in the Maribyrnong Detention Centre.
<b>Robjant 2009</b>	Opportunity sampling: Treated: From four centres, recruited from the library and other communal areas, 75% agreed, main reason for not participating was language problems; Comparison: recruited from seven different community drop in centres, 60% of those approached agreed to participate
<b>Ichikawa 2006</b>	Opportunity sampling: contacted them through their lawyers or non-governmental organizations. Of 73 contacted, 55 agreed to participate.
<b>Steel 2006</b>	Opportunity and snowball sampling: Lists of names provided by community leaders were supplemented by snowball sampling to recruit 241 Arabic-speaking Mandaean (from Iraq or Iran) refugees in Sydney (60% of the total adult Mandaean population)
<b>Momartin 2006/Steel 2011</b>	Opportunity sampling: The sample was recruited consecutively from the Early Intervention Program of the Service for the Treatment and Rehabilitation of Torture and Trauma Survivors (STARTTS) in Sydney, New South Wales. Resettlement agencies in NSW are required to refer recent refugees (both TPV and PPV holders) to the program, irrespective of their mental status or level of exposure to past trauma.
<b>Cleveland 2013</b>	Opportunity sampling: For the adult study, we interviewed 122 adult asylum seekers detained (at least 7 days) in either the Laval (Montreal) or the Toronto Immigration Holding Centre. A comparison group of 66 recently-arrived (within a year) adult asylum seekers who had never been detained in Canada completed the same questionnaires. For both the detained and nondetained groups, the study sample is highly representative. For the detained sample, researchers visited the Laval and Toronto Immigration holding Centres weekly in 2010-2011 and invited all asylum seekers who had been detained for at least a week to take part in the study. The nondetained sample was recruited through community and government agencies providing residential and settlement services to asylum seekers in Montreal and Toronto. Researchers did not select or filter participants in any way. All eligible individuals, without distinction, were invited to participate.
<b>Thompson 2011</b>	Selective opportunity sampling: Different ethnic organisations, the divisions of general medical practices, as well as legal agencies working with asylum seekers living in the community or in detention, were involved in asking their clients if they would participate in the research. All participants from an



	immigration detention centre who were seeking asylum were invited to participate in the study. The final included sample was selected based upon being either a survivor of torture or a survivor of other types of systemic abuse
<b>Johnston 2009</b>	Opportunity sampling and snowballing targeting women and men of varying ages, educational backgrounds and family compositions (e.g. intact and nonintact nuclear families). Excluded if they had not been living at least 6 months in the community (outside detention) and could not speak Arabic or English. Participants were recruited through community organisations such as Migrant Resource Centres and non-government organisations providing services to refugees in the study site. Community health centres were not included as points of contact in order to avoid over-representation of 'patients'. Refugees who did not utilise these community services were accessed by snowballing within established community networks.