

CHAPTER FOUR

RESEARCH AND PROGRAMS

4.1 Much of the research previously undertaken has been based on retrospective analysis and data collection, and has been directed at best to the provision of services towards the end of veterans' lives. A large number of other research projects have only recently been undertaken on deployments or services that date back several decades, although some countries have commenced study on these at earlier periods.

4.2 The reasons for this retrospective approach are multiple, and some have been addressed already, including:

- Policy decisions which limit growth of the overall benefits/pensions bill through restriction of service definitions and requirement for a level of connection between disability and service higher than in some other countries; and
- The structure of the RMA and its role in determining cause of illness or injury.

4.3 However, there are other factors which have limited the development of services, in spite of the vociferous statements of many veterans. These include:

- The belief that ill effects from deployments would only manifest late in life;¹
- The atmosphere surrounding various earlier deployments, service in which were seen as a duty (World War 2 in particular) or which eventually became unpopular and less acknowledged (eg Vietnam).² These social contexts did not always limit the availability of benefits, but may have limited recognition by individuals of the relationship between health and war, and contributed to governments not actively seeking to investigate some health issues;
- Limited acceptance of psychological/psychiatric problems which can have short and long term effects;³
- Reluctance to acknowledge the effects of chemicals and other hazards, and of any longer term effects of substances such as agent orange.⁴

4.4 According to the Repatriation Commission, there was limited research undertaken of the effects of war following both World Wars.⁵ Social factors⁶ and

1 See below, paragraphs 4.34–4.44.

2 See paragraphs 4.45–4.46.

3 See below, paragraphs 4.51–4.54.

4 See paragraphs 4.45–4.50.

5 *Submission 8*, Repatriation Commission, pp. 5–6, paragraphs 24, 25–26. See also *Improving the Delivery of Cross Departmental Support and Services for Veterans—A Joint Report of the Department of War Studies and the Institute of Psychiatry*, Kings College London, July 2003, at http://news.mod.uk/news_press_notice.asp?newsItem_id=2616, p. 32, paragraph 4.3.1.1 which notes the limited research undertaken on world war 2 veterans in the UK.

possibly a limited understanding of more immediate effects of deployment contributed to this, as well as the absence of methodologies and technologies that can now re-create data collection and identify a wider range of effects. DVA notes:

Epidemiology is a relatively recent science, having developed as a mainstream area of study only in recent decades. DVA commenced its current focus in 1994 with the study of the Mortality of Vietnam Veterans. DVA has been building up its expertise since that study.⁷

4.5 Other developments include a more expansive understanding of psychological ill-health, links between physical and mental injury, the existence of complex syndromes, and the effects of chemical and other hazards. These may have been discussed but lacked the scientific basis achieved through long term study of substantial numbers of persons, comparisons with others in the community not exposed, and the identification of numerous viruses. Persons with visible injury or obvious disease could be compensated but where no specific cause could be identified, the relevant links could not be established.⁸

4.6 Even then, some of the studies referred to on World War 2 veterans have dealt only with small groups (such as prisoners of war in Nagasaki)⁹ and persons likely to have contracted hepatitis B and other disorders.¹⁰ Where such studies have followed directly upon medical discovery, they have been an appropriate response, but where they have been undertaken only years after established awareness of problems, they represent a failure to take a pro-active approach.

4.7 A number of groups of older veterans, from World War 2 to Vietnam in particular, have considered they have been excluded from war related disability compensation, that little consideration was given to possible health effects of their service, or that their ill health has been ignored for long periods. Some of these concerns are justified, even though the context in which their service occurred did not include an acceptance of a duty of care similar to that which is now current. In many of these cases, a mixture of factors has affected outcomes, but in those where the service is not war related, both the nature of service and the difficulty in measuring

6 Including a reluctance to discuss recent conflict. See *Improving the Delivery of Cross Departmental Support and Services for Veterans—A Joint Report of the Department of War Studies and the Institute of Psychiatry*, Kings College London, July 2003, at http://news.mod.uk/news_press_notice.asp?newsItem_id=2616, p. 95, paragraph 6.5.1 which notes the difference between past attitudes and current ones where personnel are less inclined to tolerate a lack of response to issues.

7 *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 5.

8 See *Improving the Delivery of Cross Departmental Support and Services for Veterans—A Joint Report of the Department of War Studies and the Institute of Psychiatry*, Kings College London, July 2003, at http://news.mod.uk/news_press_notice.asp?newsItem_id=2616, p. 46, paragraph 5.3.1.2 which notes that in the UK there was originally a reluctance to pay a war pension for psychiatric illness after world war 2, although this policy was changed.

9 *Submission 8*, Repatriation Commission, p.6, paragraphs 27–29.

10 *Submission 8*, Repatriation Commission, pp. 6–7, paragraphs 30–32.

exposures combine to limit access to a disability pension. Although compensation has been paid in a number of cases relating to the British nuclear tests,¹¹ each of these has been considered separately, with some being settled out of court. There is no presumption of cause which would reduce the burden of proof.

British Nuclear Tests in Australia¹²

4.8 These were carried out between 1952 and 1957, with some additional tests between 1953 and 1963.¹³ Although evidence from Hiroshima and Nagasaki was available immediately on the effects of direct exposure to nuclear weapons, the then Australian government approved of the tests and of the involvement of both civilians and defence personnel. A Royal Commission, reporting in 1985, effectively acceded that exposure to radiation was instrumental in causing illness or death, through its recommendations including the extension of provisions of the then *Compensation (Commonwealth Government Employees) Act 1971* to civilian personnel, and the establishment of a nominal roll.¹⁴

4.9 However, these recommendations were not fully implemented and have not been considered to have met identified needs. The first was seen as ineffective in that it was impossible for most persons to demonstrate their exposure, or, sometimes, even their presence at the site. The development of a nominal roll, which would have helped in this regard, was considerably delayed, not commencing until 1999, some fourteen years later.¹⁵ Further, the recommendation on extension of legislative provisions was misunderstood, as is noted in the Clarke inquiry:

The Commission was, in fact, recommending that those same provisions, which applied to members of the armed services, be extended to ‘civilians who were at the test sites at relevant times, and Aborigines and other civilians who may have been exposed to the Black Mist’. This is very different from recommending a presumptive approach to claims or recommending that a reverse criminal standard of proof be applied to claims.¹⁶

11 *Adelaide Advertiser*, 3 August 2001: ‘Industry Science and Resources Minister Nick Minchin has revealed 79 court cases have been started since the program finished in SA in the early 1960s but only four have gone to trial. The remaining cases either had been withdrawn or confidentially settled out of court, with only one resulting in a \$867,100 payout ordered by a judge in 1989’.

12 *Submission 8*, Repatriation Commission, p. 10, paragraph 47.

13 The Hon. John Clarke QC et al, *Report of the Review of Veterans' Entitlements* (January 2003), volume 2, paragraph 16.8.

14 The Hon John Clarke QC et al, *Report of the Review of Veterans' Entitlements* (January 2003), volume 2, paragraph 16.10.

15 The roll is available at www.dva.gov.au

16 The Hon. John Clarke QC et al, *Report of the Review of Veterans' Entitlements* (January 2003), volume 2, paragraph 16.37.

4.10 As was noted by the RSL, even if members of the forces concerned made a claim under the VEA, the standard of proof now required by the RMA is expressed in terms of si everts.¹⁷ This type of exact measurements of likely doses is not available for all personnel present at the tests, although DVA has accepted the use of dosimetry to calculate these doses as an integral part of the project on exposure at test sites.¹⁸

4.11 With respect to the British atomic tests, the Clarke Inquiry studied the issues of eligibility in considerable detail¹⁹ and concluded:

- participation by Australian Defence Force personnel in the British atomic tests be declared non-warlike hazardous and the legislation be amended to ensure that this declaration can have effect in extending VEA coverage; and
- the Government move quickly to finalise the cancer and mortality study.²⁰

4.12 The government response was outlined by the Minister:

The Government will respond positively to the needs of those affected by the British Atomic Tests programme when the outcomes of the Australian Participants in the British Nuclear Test Programme—Cancer Incidence and Mortality Study, are published later in [2004].²¹

4.13 The Clarke inquiry also studied the access of BCOF personnel to benefits as a result of service in Japan. Its recommendations included that personnel who were present in Japan as part of the BCOF, for a specific period, become eligible for warlike service. The Committee recommended that service with BCOF be declared: ‘warlike from 21 February 1946 to 30 June 1947’.²² However, the government has stated that it will not change access to benefits for BCOF personnel:

17 *Submission 1*, Returned and Services League of Australia Ltd, p. 2: ‘claimants would have great difficulty in obtaining specialist medical evidence to meet the appropriate SOP’. Additionally, some of the SOPs which refer to si evert levels also require that a cancer become evident within 40 years of claimed exposure. Thus, those veterans who have not developed some form of cancer connected with radiation before this 40 year limit (1986–1992 for BCOF forces in Japan) would not be eligible even if they could demonstrate the required si evert or mili si evert levels. On the other hand, SOP 18/2003 ‘malignant neoplasm of the brain’, requires a si evert dose of 0.1, and for this to have been given/received at least 5 years prior to onset of the disease (section 5(b)).

18 Budget supplementary estimates, FADT, 5 November 2003, pp. 6–7. This was described by the Clarke report as ‘a very complex, but achievable, task,’ Hon John Clarke QC et al, *Report of the Review of Veterans' Entitlements* (January 2003), volume 2, paragraph 16.22.

19 The Hon John Clarke QC et al, *Report of the Review of Veterans' Entitlements* (January 2003), volume 2, chapter 16.

20 The Hon John Clarke QC et al, *Report of the Review of Veterans' Entitlements* (January 2003), volume 2, chapter 16.

21 Minister for Veterans' Affairs Press Release, *Response to the Clarke Committee Report on Veterans' Entitlements*, 2 March 2004, p. 2.

22 The Hon John Clarke QC et al, *Report of the Review of Veterans' Entitlements* (January 2003), volume 2, chapter 15.

We would create anomalies if we were to confuse a state of readiness, or presence in a former enemy's territory, with the real and tangible risks of facing an armed and hostile enemy....The Government therefore does not accept the Committee's recommendations for an extension of Qualifying Service for certain service in Northern Australia during World War II and in the British Commonwealth Occupational Forces.²³

4.14 The Clarke report does not, and was not intended to; solve the medical issue of exposure to ionising radiation. It only recommended extension of qualifying service, to a limited extent. The same is true for personnel at the British atomic tests. Thus, although access to 'war service' is important, the relationship between exposure and ill health remains a major issue for those persons who believe their health status is linked to their time in Japan rather than to any other service period.

4.15 Allocation of responsibility for what is perceived by many to be governmental delay in implementing earlier recommendations is complex. However, the above Ministerial comment reflects a long-standing belief that warlike service is quite different from either hazardous or peacekeeping service. Whether the community as a whole still endorses this belief is not known, but there is little agreement among the scientific community on the effects of exposure in either Japan several months after the war or during the British atomic tests. This will remain a key factor for both Australian and British personnel with respect to the latter.

New Zealand

4.16 The situation in other countries is not necessarily the same, either because the definition of eligible service is broader than in Australia, or the reverse onus of proof is higher. In the case of New Zealand in particular, there is a level of proof which requires the government to demonstrate that the illness or injury was not caused by an accepted war or emergency, and the extent of eligible service is wide. With respect to World War 2 and later occupation forces, this has allowed New Zealanders serving in J Force in Japan between 14 August 1946 and 28 April 1952²⁴ to also claim war disability.

4.17 As far as the nuclear tests are concerned, the New Zealand response has been that service personnel able to demonstrate a 70 per cent rate of disability from relevant service, including service in Operation Grapple—the main involvement by New Zealand in the British nuclear tests—are entitled to a war disablement pension which is tax free. A separate, but tax assessed, veterans pension may also be available.²⁵ The

23 Minister for Veterans' Affairs Press Release, *Response to the Clarke Committee Report on Veterans' Entitlements*, 2 March 2004, p. 2.

24 New Zealand, Ministry for Social Development, *War Veterans Entitlements* (April 2004) at www.workandincome.govt.nz/get-financial-assistance/war-veterans-pensions/war-disablement.html#wars-and-emergencies.

25 New Zealand, Ministry for Social Development, *War Veterans Entitlements* (April 2004) at www.workandincome.govt.nz/get-financial-assistance/war-veterans-pensions/war-disablement.html#wars-and-emergencies.

government extended the provisions of Section 80A of the War Pensions Act to Operation Grapple Servicemen on 31 March 1998. However, this situation does not easily correlate with Australian experience, since Operation Grapple was a NZ Navy operation,²⁶ with very little likelihood of exposure to radiation.²⁷

4.18 Research undertaken in New Zealand supported the lack of relationship between the role of the ships involved and any ill effects by those on board:

In his report at Appendix Three, Dr Andrew McEwan, Scientific Director, National Radiation Laboratory, noted that analysis conducted by the National Radiological Protection Board in the United Kingdom showed that of 21,358 participants in all British tests, only 1716 had non-zero radiation doses recorded, most of which were insignificant. There is no evidence, nor any suggestion from those responsible for radiological protection, that any RNZN vessel or crew member received any significant exposure to radiation during Operation Grapple.²⁸

4.19 However, the same report also concluded that:

18.9 Against this background, we concluded that the children of Operation Grapple and Vietnam veterans should be given a package of special assistance to deal with the social and medical circumstances they face.²⁹

4.20 Nonetheless, veterans from the ships have continued to press for additional compensation, and were funded to undertake additional research when a new method of identifying radiation exposure was developed:

As a result of research being undertaken in Dundee and St. Andrews Universities, a simple test has been developed that uses the saliva and blood of people who claim to have been exposed to nuclear radiation. This test is able to clearly demonstrate whether exposure had, in fact, taken place, enabling an accurate assessment of the causal link to the levels of radiation and any health problems suffered. ...the New Zealand Government has made funds available for their own Test Veterans' Association for this purpose.³⁰

26 Wars and Emergencies recognised for a war pension: Operation Grapple at Christmas and Malden Islands on the ships: Rotoiti 15 May 1957–8 Nov 1957, Pukaki 15 May 1957–8 Nov 1957 and 28 Apr 1958–23 Sept 1958, New Zealand, Ministry for Social Development, *War Veterans Entitlements* (April 2004) at www.workandincome.govt.nz/get-financial-assistance, war-veterans-pensions/war-disablement.html#wars-and-emergencies.

27 Apart from sailors, there were five 'officers' from New Zealand who were involved in ground tests.

28 *Inquiry into the Health Status of the Children of Vietnam and Operation Grapple Veterans*, at www.executivegovt.nz/96-99/minister/shiple/vietnam/01, paragraph 8. 5.

29 *Inquiry into the Health Status of the Children of Vietnam and Operation Grapple Veterans*, at www.executivegovt.nz/96-99/minister/shiple/vietnam/01, paragraph 18.9.

30 June Beckett, 'Forgotten Veterans Still Waiting for Justice', *The Issue* Dec/Jan 2001, p. 1, www.theissue.com.au/maralinga.

4.21 The current status of New Zealand veterans in this respect therefore is that they are eligible for a war pension if they can demonstrate a particular level of disability, with the connection between that disability and war or emergency service being at a lesser level of proof than that required by Australia.

United States

4.22 The RSL also referred to what was seen as a much more preferable system adopted by the US government with respect to veterans and exposure to radiation.³¹ However, the history of radiation-related compensation in the US has been long and not without some battles. There are two main factors which govern the variety of legislation—both that relating to veterans and to civilians—and these are a greater awareness of and willingness to admit to the involvement by government in activities which affected both civilians and the military,³² and reliance on specific scientific information to limit access to compensation.

4.23 Veterans have been eligible for radiation-related benefits since 1981.³³ The US legislation relating to specific cancers was passed in 1988,³⁴ prior to legislation

31 *Committee Hansard*, p. 21. See also US Department of Veterans Affairs, *VA Proposes New Aid For 'Atomic Veterans'*, 27 December 2000, www.va.gov. 'In 1988, Congress established a presumption of service connection for 13 different cancers in veterans exposed to "ionizing radiation", with later changes bringing the number to 16. Under provisions of the Radiation-Exposed Veterans Compensation Act (Pub. L. 100-321), veterans are presumed to be service connected if they participated in a radiation-risk activity: 'The proposed changes apply to those veterans who participated in "radiation-risk activities" while on active duty, during active service for training or inactive duty training as a member of a reserve component. Those activities include the occupation of Hiroshima or Nagasaki, internment as a POW in Japan, or onsite involvement in atmospheric nuclear weapons tests. People in this group are frequently called "atomic veterans"'. The number of conditions was eventually increased to 21 in 2002.

32 See for example the comments by Congress relating to extension of benefits to energy workers in 2000: 'Congress finds that— The Congress finds the following: (1) Since World War II, Federal nuclear activities have been explicitly recognised under Federal law as activities that are ultra-hazardous. Nuclear weapons production and testing have involved unique dangers, including potential catastrophic nuclear accidents that private insurance carriers have not covered and recurring exposures to radioactive substances and beryllium that, even in small amounts, can cause medical harm....(4) scientific data resulting from the enactment of the Radiation Exposed Veterans Compensation Act of 1988 (38 U.S.C. 101 note), and obtained from the Committee on the Biological Effects of Ionizing Radiation, and the President's Advisory Committee on Human Radiation Experiments provide medical validation for the extension of compensable radiogenic pathologies', www.acranet.com/pdxavets/broudy

33 'Since 1981, these veterans have been eligible for care for all conditions except those that VA affirmatively determines have causes other than radiation exposure. As a result of legislation enacted in 1996, special eligibility for care now is limited to those exposed veterans with an illness that VA has recognised as potentially radiogenic through statute or regulation. Health care also is available to veterans determined to have service-connected diseases related to radiation exposure they suffered anytime during their military service. VA also pays compensation to veterans and their survivors if the veteran is determined to have a disability due to radiation exposure while in service', US Department of Veterans Affairs, *VA Programs for Veterans Exposed to Radiation*, VA Fact Sheet January 1997, www.va.gov/ooa/pocketcard/

relating to civilians who had been exposed during US based testing in the 1950's and 1960's.³⁵ The *Radiation Exposure Compensation Act (RECA)* of 1990 legislated for presumptive status for civilians:

...an additional law administered by the Department of Justice (DOJ), P.L. 101-426 (RECA) was enacted in 1990. This was a compensation program for uranium miners and down winders. Subsequently, an amendment to that law, P.L. 101-510 was enacted benefiting onsite participants, test site workers and atomic veterans physically present in an area affected by atmospheric nuclear tests for specified periods from 1951 through 1962. Note: "Specified periods" does not include any tests before 1951, or exposures in Japan.³⁶

4.24 However, there were limitations placed on causal factors, and also the same type of date limitations as are currently used by the RMA:

Those cancers are leukaemia (other than chronic lymphocytic leukaemia) provided that initial exposure occurred after the age of 20 and the onset of the disease was between two and 30 years of first exposure, and the following diseases, provided onset was at least five years after first exposure: multiple myeloma, non-Hodgkin's lymphomas and primary cancer of the thyroid (provided initial exposure occurred by the age of 20), female breast (provided initial exposure occurred prior to age 40), esophageus (provided low alcohol consumption and not a heavy smoker), stomach (provided initial exposure occurred before age 30), pharynx (provided not a heavy smoker), small intestine, pancreas (provided not a heavy smoker and low coffee consumption), bile ducts, gall bladder, or liver (except if cirrhosis or hepatitis B is indicated).³⁷

4.25 Payments were also subject to offset if any other payment was made relating to the same illness:

Benefits provided under the Act for any onsite test participants including atomic veterans/widows is a lump sum of \$75,000 which would be offset by the amount of any payment made pursuant to a final award or settlement on a claim (other than a claim for worker's compensation), against any person of any payment by the Federal Government, that is based on injuries incurred by the claimant for which his/her claim under the Act was submitted. If any such award, (Social Security disability, for instance, children and spouses), settlement of Federal payment was made, the

34 *Radiation Exposed Veterans Compensation Act* of 1988 (38 U.S.C. 101 note); see also US Department of Veterans Affairs, *VA Proposes New Aid For 'Atomic Veterans'*, 27 December 2000, www.va.gov.

35 Other legislation also provided compensation to persons involved in tests at the Marshall Islands, etc.

36 www.acranet.com/pdxavets/broudy, referring to the amendments made in 1999.

37 www.acranet.com/pdxavets/broudy, referring to the amendments made in 1999.

Assistant Director shall calculate the present value of such payments, and subtract the present value from the payment to be made under the Act.³⁸

4.26 Hence, the benefits are not open-ended, and the reduction in standards of proof have resulted only from lobbying and the acceptance that some ‘facts’ are hard to demonstrate. For example, the *Justice for Atomic Veterans Act* was introduced in 1999:

...to provide a presumption of service-connection for certain radiation-related illnesses suffered by veterans who were exposed during military service to radiation. These veterans include those who participated in atmospheric testing of a nuclear device, who participated in the occupation of Hiroshima or Nagasaki between August 6, 1945 and July 1, 1946 and who were interned as prisoners of war in Japan during World War II and were therefore exposed to ionizing radiation.

Under present law, veterans who engaged in radiation risk activities during military service are entitled to a presumption of service-connection for some illnesses, but for other illnesses must prove causation by "dose reconstruction estimates" which many reputable scientists have found fatally flawed. Last year, the Department of Veterans Affairs Deputy Under Secretary for Health, Dr. Kenneth Kizer, wrote that he personally recommended strong support for a similar bill introduced by Senator Wellstone as a "matter of equity and fairness".

It is not the fault of these veterans that accurate records of their exposure were not kept and maintained. Many veterans have been unable to obtain even medical records relating to their exposure during military service. Records have been lost. Records of radiation-related activities were classified and not made available to the veterans seeking compensation.

According to Dr. Kizer "the scientific methodology that is the basis for adjudicating radiation exposure cases may be sound, the problem is that the exposure cannot be reliably determined for many individuals, and it never will be able to be determined in my judgement. Thus, no matter how good the method is, if the input is not valid then the determination will be suspect".³⁹

4.27 For US veterans, the relevant period in Japan after the end of the war is from September 11th 1945 to July 1, 1946,⁴⁰ whereas the BCOF forces arrived in February 1946.

4.28 There has not been an automatic acceptance by the US that presence at sites equals compensable illness. There are two forms of status, relative to the type of condition suffered: presumptive and non-presumptive. Presumptive status entitles an

38 www.acranet.com/pdxavets/broudy, referring to the amendments made in 1999; www.acranet.com/pdxavets/broudy9 (106TH Session of the US Congress, January 2000).

39 www.acranet.com/pdxavets/broudy6

40 US Department of Veterans Affairs, *VA Programs for Veterans Exposed to Radiation*, VA Fact Sheet January 1997, www.va.gov/ooa/pocketcard/

individual to health coverage, but ‘under the non-presumptive program, additional factors must be considered to determine service-connection, including amount of radiation exposure, duration of exposure and elapsed time between exposure and onset of disease.’⁴¹ Presumptive status may also entitle an individual to a disability benefit, which will vary according to the level of disability and number of dependants.⁴²

4.29 Changes to US veterans' legislation in 2000 also required the Veterans Affairs Department to further assist veterans with plausible (‘well grounded’) claims including an enhanced duty to provide relevant information.⁴³ However, this did not mean that any claim would be accepted. The onus of proof changed with the development of presumptive status, but some conditions are still excluded.⁴⁴

4.30 As far as the U.S atomic tests are concerned, the potential for considerable effect on large numbers of civilians has been a crucial factor, and therefore the US decision may have been both a political and an administrative one, acknowledging what now appears to have been total indifference to the ordinary citizen as well as the need to minimise some of the effort involved in individuals making claims.

4.31 These instances demonstrate again that policy decisions and the nature of legislation can be paramount in the extension or contraction of eligibility. In New Zealand, the emphasis on a very limited burden of proof in legislation with the onus being on government to demonstrate that a disease is *not* caused by a specific factor, and a strong emphasis on the government’s duty to service personnel, combine to provide greater access to benefits:

The fundamental philosophy on which New Zealand's war pension legislation is based is that of giving veterans who have served in a war or emergency, the benefit of the doubt in terms of demonstrating the attributability of a medical condition to their military service. The establishment of absolute certainty or even limited suggestion that a condition is attributable is not required. The balance of probability is not used in war pensions' decision making. Pensions are payable where a medical assessment of a condition states that it can not be disproved that the condition could have had its genesis in the Service environment. This characteristic of New Zealand's War Pensions Act makes it fundamentally different from other countries' war pensions' legislation which, in general, requires legal proof before accepting attributability. The New Zealand

41 US Department of Veterans Affairs, Fact Sheet, September 2002, Attachment C.

42 The 21 types of cancer covered under the presumptive program are: all forms of leukaemia except chronic lymphocytic leukaemia; cancer of the thyroid, bone, brain, breast, colon, lung, ovary, pharynx, esophageus, stomach, small intestine, pancreas, bile ducts, gall bladder, salivary gland and urinary tract (kidneys, renal pelvis, ureter, urinary bladder and urethra); lymphomas (except Hodgkin's disease); multiple myeloma; primary liver cancer; and bronchio-alveolar carcinoma (a rare lung cancer).

43 See www.va.gov/vetapp02/files/01/0202427.

44 The *Radiation Exposure Compensation Act Amendments* of 2000 provided for further changes to categories and also to the amount of exposure.

philosophy is indicative of our Government's acceptance of its obligation to safeguard the welfare of Service men and women.⁴⁵

4.32 The United States does rely more on scientific evidence, but has conceded that radiation exposure has the potential to cause or contribute to certain cancers, or, in the case of Vietnam, that all personnel were exposed to Agent Orange. As noted, the current structure of Australian veterans' legislation limits the capacity of the RMA⁴⁶ and the Repatriation Commission to act in the same way, apart from the S 180A discretion.⁴⁷

4.33 Notwithstanding the numerous studies undertaken on the British nuclear tests, including in the United Kingdom, there has been considerable dissatisfaction from some veterans in Australia. Some perceive the problem to be with administrative approaches which, at best, are perceived as using the lack of definitive conclusions from medical research to justify non-recognition of various symptoms as war-caused. However, governments have successively declined to change the status of some service, perhaps under pressure from those organisations seen as representing veterans who were directly involved in war, as opposed to hazardous service, peacekeeping, or peacemaking.⁴⁸

Ill effects of war likely to manifest only later in life

4.34 Information provided by the Repatriation Commission suggests that the idea of undertaking research into the ongoing effects of war on the lives of veterans did not become common until relatively recently.⁴⁹ This is not to deny that considerable efforts were made to assist veterans adjust to society and to provide appropriate care for those visibly injured. It rather indicates that the understanding of needs was limited, and that it was not fully understood that different wars may have had different effects, over different time periods, including the short term.⁵⁰ In its reference to an article on the existence of some form of psychological response being demonstrated after numerous conflicts, the Commission stated:

...it generated a new way of thinking about the health effects of being deployed. Previously, most people who were concerned about the health of veterans had looked for specific exposures on particularly deployments. The paper by Hyams et al indicated that it was the fact of deployment that created feelings of ill-health.⁵¹

45 *Inquiry into the Health Status of the Children of Vietnam and Operation Grapple Veterans*, at www.executivegovt.nz/96-99/minister/shiple/vietnam/01, paragraph 16.2.

46 See above, Chapter 1, paragraphs 1.16–1.25.

47 See above, Chapter 1, paragraphs 1.23–1.29.

48 As is indicated in the government's response to the Clarke report's recommendations concerning BCOF service in Japan, see above, paragraph 4.13.

49 *Submission 8*, Repatriation Commission, p. 5, paragraph 23, p.6, paragraphs 27–31.

50 See *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 5.

51 *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 9.

4.35 This appears to be a step towards the situation prevailing in the UK, that feelings or symptoms can attract compensation.⁵² However, while the UK is able to provide a pension, the direct flow on in Australia is at present limited to treatment:

The paper had an effect on the way we treat veterans returning from a deployment. Under a policy change announced by the then Minister, the Honourable Bruce Scott MP, any veteran returning from a deployment with symptoms that are difficult to diagnose is provided with treatment until the condition is diagnosed.⁵³

4.36 In effect, this will provide some support unless and until the situation has progressed to the stage where the RMA is able to provide a SOP.

4.37 Effects will also vary according to an individual's experience—for example, some of the US studies have demonstrated an increase in psychiatric problems among former prisoners of war, but these have been identified as varying depending on the circumstances and type of imprisonment. Short and long term effects from nutritional deficiency have also been suggested.⁵⁴

4.38 Many of the research projects recently undertaken, such as that on the health of survivors of the Korean War,⁵⁵ might be considered to reflect an approach which did not see health issues as immediately relevant. The survivors of this conflict are now in their 70s and 80s,⁵⁶ may well have experienced health problems specific to the particular conflict for some time,⁵⁷ and are likely to be less familiar than younger veterans with disorders such as PTSD.⁵⁸ Their capacity to lobby as a group with specific needs may have been reduced by all three factors, quite apart from the limited research that may have been possible because of absence of data or the lack of epidemiology.⁵⁹

52 See above, Chapter 1, paragraph 1.40.

53 *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 9.

54 United States, Institute of Medicine, Report, *Health of Former Prisoners of War—Findings* (1992) at www.veterans.iom.edu/conflict.asp?id=6149 (Korea/Reports).

55 *Submission 8*, Repatriation Commission, pp.7, 9–10, paragraphs 34–35, 45–46.

56 Older veterans also served in World War 2 or BCOF forces. 'The DVA client database indicates that at least 30% of Korean War veterans participated in World War 11', *Australian Veterans of the Korean War Mortality Study 2003*, Executive Summary, Effect of Nature of Service, at www.dva.gov.au/publications

57 See for example *Korean War Health Issues Readings and other resources*, www.va.gov/ooaa/pocketcard/korea.asp, and also: 'It is pertinent to examine veteran mortality studies which relate to all recent conflicts whilst, additionally, addressing those facts and situations peculiar to the Korean conflict,' *Australian Veterans of the Korean War Mortality Study 2003*, Executive Summary, at www.dva.gov.au/publications.

58 That is, less familiar with terminology and literature, although likely also to be affected by PTSD—see *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 13.

59 *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 5.

4.39 Another related factor is that there is little data available on lifestyle from the contemporaneous records, requiring gaps in methodology to be filled by recollection. This strategy may be more effective when data collection is undertaken shortly before deployment—for example, the US study on the health of Gulf War veterans prior to their deployment. The absence of data collection in Australia probably reflects a limited attention paid to specific issues arising from the Korean War and also the limited knowledge at the time of the long term effects of smoking, as well as other factors.

Korean War health studies

4.40 The Executive Summary of the Australian Veterans of the Korean War Mortality Study 2003 states that the study ‘was prompted by concerns from the Korean War veteran community that their death rates were higher than the Australian male population, and that this increase was due to their service in Korea.’⁶⁰ This study began in 1999, and concluded that there was an increase in mortality relative to the general male population of the same age, due mostly to cancers and respiratory and circulatory problems rather than other disease or psychiatric illness.⁶¹ However, because there were limited environmental/social data available, the study agreed that there were weaknesses in methodology:

There was a lack of measurement of exposure to risk factors that might contribute to the observed associations, such as cigarette smoking, alcohol intake, hepatitis B virus infection, endemic parasites and bacteria, pesticides, solvents, chemical exposures and environmental exposures in Korea; and the exposure measures available were duration and period of service in Korea. These could not reflect occupational variations or the variation in exposure to Korean War service within and between the Royal Australian Navy, Australian Army and Royal Australian Air Force.⁶²

4.41 Consequently:

Although Korean War veterans have a higher mortality for several causes of death that have been identified, there is no way of determining whether this resulted from some exposure in Korea or whether it was the result of lifestyle changes arising as a consequence of Korean War service or a combination of both.⁶³

60 *Australian Veterans of the Korean War Mortality Study 2003*, Executive Summary, at www.dva.gov.au/publications

61 Although there was a higher rate of suicides among those who served between 1953–1956, this may not be significant; *Australian Veterans of the Korean War Mortality Study 2003*, Executive Summary, at www.dva.gov.au/publications. The more detailed Health Status study may provide more information on mental health issues. However, the higher rate of accidents in Gulf War veterans (see above, Chapter 2 paragraph 2.5 may indicate similar problems).

62 *Australian Veterans of the Korean War Mortality Study 2003*, Executive Summary, Strengths and Weaknesses of the Study, at www.dva.gov.au/publications

63 *Australian Veterans of the Korean War Mortality Study 2003*, Executive Summary, Conclusion, at www.dva.gov.au/publications. ‘Another important factor may be the distinction between

4.42 United States research has indicated that cold injury and cirrhosis of the liver (for former POWs of both World War 2 and Korea) are likely long term problems. The first arose from the environment and, in some cases, inability to get appropriate treatment for damage caused by the cold.⁶⁴ The cause of the second, which is not attributable to alcohol use, is not yet known. However, the causal link is not required to be demonstrated individually:

This final amendment adds cirrhosis of the liver to the list of conditions for which entitlement to service connection is presumed for former prisoners of war (POWs) under § 3.309 (c). This regulatory change is based on scientific and medical research findings.⁶⁵

4.43 Much of the United States research relating to Korean and World War 2 veterans has been undertaken by the Institute of Medicine, part of the National Academies of Health.⁶⁶ Some of the research began shortly after World War 2, allowing for long term study results.⁶⁷

IOM initially conducted a 30-year follow-up of American POWs of World War II and the Korean Conflict and found evidence of increased mortality from cirrhosis in American former POWs compared to the US general population. Furthermore, the results of the October 2000 IOM [Institute of Medicine] study are consistent with other studies, including a 1999 mortality follow-up of British POWs and a 1968 mortality study of Australian World War II POWs.⁶⁸

those who served in both World War 2 and Korea and those who served only in the former—if the comparison is between men of the same age group, a percentage of that cohort would have been World War 2 veterans. The Cancer Incidence Study (*Australian Veterans of the Korean War Cancer Incidence Study 2003*, at www.aihw.gov.au/publications/index/cfm) compared deaths from cancer 1982–1999 between Korean veterans and those of the same age who did not serve in Korea. Mortality from 13 causes of death of *a priori* interest were elevated ... They included mortality from all causes, chronic obstructive pulmonary disease, ischaemic heart disease, stroke, alcoholic liver disease and external causes, such as suicide and motor vehicle accidents. Among the cancers of interest, mortality rates for cancer of the oesophagus, gastrointestinal and colo-rectal cancers, head and neck, lung, genito-urinary and prostate cancers were elevated. Mortality rates from two *a priori* diseases (tuberculosis and peptic ulcer disease) and four cancers (liver and gallbladder, mesothelioma, melanoma and leukaemia) did not differ from that of Australian males’.

64 *Korean War Health Issues Readings and other resources*, www.va.gov/oaa/pocketcard/korea.asp

65 ‘*Cirrhosis of the Liver A Presumptive Medical Condition in Former Prisoners of War*,’ Press Release Secretary of [US] Veterans Affairs Department, at www.vba.va.gov/bln/21/Benefits/POW/docs/cirrhosis.doc

66 www.iom.edu/topic

67 See United States, Institute of Medicine, Report, *Health of Former Prisoners of War—Findings* (1992) at www.veterans.iom.edu/conflict.asp?id=6149

68 ‘*Cirrhosis of the Liver A Presumptive Medical Condition in Former Prisoners of War*,’ Press Release Secretary of Veterans Affairs Department, www.vba.va.gov/bln/21/Benefits/POW/docs/cirrhosis.doc.

4.44 Unfortunately, little specific research was previously undertaken in Australia on these veterans, who may have been considered as part of the World War 2 group because of the overlap in service.

Vietnam—mental health and chemicals

4.45 Possibly the most contentious health issues have arisen from the Vietnam War,⁶⁹ where large scale spraying and other use of defoliants/herbicides affected not only the Vietnamese population but also the military of several nations. The Vietnam conflict is also noted for a range of psychiatric disorders, already known to the military–psychiatric world from at least the Korean War period, but not yet fully classified and accepted. Foremost among these is PTSD.⁷⁰

4.46 Vietnam is also the first war in modern times which was opposed by some groups in both the United States and Australia. As a consequence, while military action was broadly accepted by some in the community, there were strong feelings about this by many groups, which had a long term effect. This has had no noticeable direct consequence in the United States where research on effects has been long term, but may have contributed to the relatively late date at which Australia commenced specific studies.

There have been many and varied studies with regard to veterans of this conflict. There have been two mortality studies, a cancer incidence study, a health census, several toxicological laboratory studies, a morbidity study and several studies of the children of Vietnam veterans. The more recent studies have shown that Vietnam veterans suffer from an increase in illness and elevated mortality rate for some conditions such as lung cancer, melanoma, prostate cancer, suicide and ischaemic heart disease. The

The Australian research referred to in this quote is presumably that mentioned by the Repatriation Commission at *Submission 8*, Repatriation Commission, p. 6, paragraph 28. By 2004, the US recognised the following diseases for Prisoners of War (United States, Department of Veterans Affairs, *Federal Benefits for Veterans and Dependents*, 2004): ‘Former prisoners of war (POW) are eligible for disability compensation if they are rated at least 10 percent disabled from conditions presumed to be related to the POW experience. The following presumptive conditions apply to former POWs who were imprisoned for any length of time: psychosis, any of the anxiety states, dysthymic disorder, organic residuals of frostbite, and post-traumatic osteoarthritis. Former POWs who were imprisoned for at least 30 days are also eligible for the following additional presumptive conditions: avitaminosis, beriberi (including beriberi heart disease), chronic dysentery, helminthiasis, malnutrition (including optic atrophy), pellagra and/or other nutritional deficiencies, irritable bowel syndrome, peptic ulcer disease, peripheral neuropathy and cirrhosis of the liver’. www1.va.gov/opa/vadocs/Fedben, pp.19–20.

69 *Submission 8*, Repatriation Commission, p. 10, paragraphs 49–50.

70 See *Improving the Delivery of Cross Departmental Support and Services for Veterans—A Joint Report of the Department of War Studies and the Institute of Psychiatry*, Kings College London, July 2003, at http://news.mod.uk/news_press_notice.asp?newsItem_id=2616, p. 52, paragraph 5.3.2.6 which refers to a particular ‘culture’ growing up around the Vietnam war experience. PTSD was recognised in 1980, although a wide range of effects of war had been studied long before that date (p. 60).

children of Vietnam veterans have a higher incidence of spina bifida maxima, cleft lip/palate and suicide.⁷¹

4.47 The Repatriation Commission notes that such studies have helped to develop appropriate services such as counselling, compensation, and services for children of Vietnam veterans.⁷² Again, however, the date at which research has commenced does not reflect any lessons learnt from previous conflicts, nor any data collection which could minimise the need for retrospective assessment of lifestyle factors and calculation of pre-existing illness or vulnerability to certain situations.⁷³

Herbicides/defoliants—the effects of Agent Orange

4.48 The United States had undertaken some research into Agent Orange by 1969 which led to its use being discontinued in Vietnam in 1971, although there was a lack of correlation between outcomes of research and the beliefs of veterans. In 1991 Congress required that a major study be undertaken:

Because of continuing uncertainty about the long-term health effects of exposure to the herbicides used in Vietnam, Congress passed Public Law 102–4, the Agent Orange Act of 1991. This legislation directed the Secretary of Veterans Affairs to request the National Academy of Sciences (NAS) to conduct a comprehensive review and evaluation of scientific and medical information regarding the health effects of exposure to Agent Orange, other herbicides used in Vietnam, and the various chemical components of these herbicides, including dioxin. A committee convened by the Institute of Medicine of the NAS conducted this review and in 1994 published a comprehensive report entitled *Veterans and Agent Orange: Health Effects of Herbicides Used in Vietnam*.

Public Law 102–4 also called for the NAS to conduct subsequent reviews at least every 2 years for a period of 10 years from the date of the first report. The NAS was instructed to conduct a comprehensive review of the evidence that had become available since the previous IOM committee report and to reassess its determinations and estimates of statistical association, risk, and biological plausibility.⁷⁴

4.49 The IOM established the Committee to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides, which reported in 1994 and has provided updates

71 *Submission 8*, Repatriation Commission, p. 7, paragraph 36.

72 *Submission 8*, Repatriation Commission, pp.7–8, paragraphs 37–38.

73 The establishment of agent orange and depleted uranium registries by the US Veterans Affairs department will not guarantee full enrolment of all those who believe they have been exposed but will allow for the collection of at least a percentage of these, thus reducing later need for reconstruction of rolls.

74 United States, Institute of Medicine, *Health of Veterans and Deployed Forces, Vietnam*, at www.veterans.iom.edu/conflict.asp?id=6139.

in 1996, 1998, 2000, and 2002.⁷⁵ There have also been other reports on Agent Orange from the IOM,⁷⁶ as well as studies from other sources. Since that first report, the updates as well as additional research on specific subjects have provided information demonstrating links between other disorders and agent orange:

After years of debate, Congress directed the National Academy of Sciences to conduct a comprehensive review and evaluation of the available scientific and medical literature on Agent Orange and the other herbicides used in Vietnam.

As a result of the first two reviews, published in 1994 and 1996, VA now recognises eight conditions which are presumed to be related to service in Vietnam for the purposes of establishing service–connection: soft tissue sarcoma, non–Hodgkin's lymphoma, Hodgkin's disease, chloracne, porphyria cutanea tarda, respiratory cancers, multiple myeloma, prostate cancer, acute peripheral neuropathy, and spina bifida in offspring.⁷⁷

4.50 As noted above, the US allows for a presumptive approach,⁷⁸ relying on scientific evidence, and then adds the respective illnesses to its list of compensable disorders:

VA presumes that all military personnel who served in Vietnam were exposed to Agent Orange, and federal law presumes that certain illnesses

75 United States, Institute of Medicine, *Veterans and Agent Orange: Health Effects of Herbicides Used in Vietnam* (1994), see www.veterans.iom.edu/subpage.asp?id=10316. Summaries of the 1994 report and of subsequent updates are available at this address.

76 See also the additional reports produced by the IOM: *Veterans and Agent Orange: Length of Presumptive Period for Association Between Exposure and Respiratory Cancer* (2004); *Characterising Exposure of Veterans and Agent Orange and Other Herbicides Used in Vietnam: Interim Findings and Recommendations* (2003); *Veterans and Agent Orange: Herbicide/Dioxin Exposure and Acute Myelogenous Leukaemia in the Children of Vietnam Veterans* (2002); *Veterans and Agent Orange: Herbicide/Dioxin Exposure and Type 2 Diabetes* (2000).

77 www.va.gov/ooa/pocketcard/vietnam_summary.asp. In 2001, diabetes mellitus was added to the list of compensable diseases, United States, Department of Veterans Affairs, 'Vietnam Veterans Benefit From Agent Orange Rules' (2001) at www.vba.va.gov/bln/21/Benefits/Herbicide/AOno1.

By 2004, one form of leukaemia was also listed, chronic lymphocytic leukaemia: see *Agent Orange and Other Herbicides*, in United States, Department of Veterans Affairs, *Benefits for Veterans and Dependents*, 2004: 'Eleven diseases are presumed by VA to be service–related for compensation purposes for veterans exposed to Agent Orange and other herbicides used in support of military operations in the Republic of Vietnam between January 9, 1962, and May 7, 1975. The diseases presumed are chloracne or other acneform disease similar to chloracne, porphyria cutanea tarda, soft–tissue sarcoma (other than osteosarcoma, chondrosarcoma, Kaposi's sarcoma or mesothelioma), Hodgkin's disease, multiple myeloma, respiratory cancers (lung, bronchus, larynx, trachea), non–Hodgkin's lymphoma, prostate cancer, acute and subacute peripheral neuropathy, diabetes mellitus, (Type 2) and chronic lymphocytic leukaemia', www1.va.gov/opa/vadocs/Fedben, p. 20. The US Department of Veterans Affairs is able to make independent assessments of research and add compensable diseases.

78 See paragraphs 4.28, 4.29, 4.42 and also Chapter 1, paragraphs 1.30–1.31.

are a result of that exposure. This so-called "presumptive policy" simplifies the process of receiving compensation for these diseases since VA foregoes the normal requirements of proving that an illness began or was worsened during military service.⁷⁹

PTSD and other psychiatric problems—under-diagnosed

4.51 The Vietnam War had a substantial effect on both military personnel and civilians, with rejection of the war by parts of society probably a contributor to some level of psychological problems among veterans. In 1991, a US report on Vietnam veterans estimated that:

...15.2% of all male and 8.5% of all female Vietnam theatre veterans currently suffer from PTSD—approximately 450,000 veterans in all. Furthermore, more than twice that number, (30.6% male and 26.9% female) of theatre veterans have had the full PTSD syndrome at some time since their war-zone experience in South-East Asia.⁸⁰

4.52 However, mental health issues including readjustment problems, have not always been identified or effectively addressed, reflecting the level of knowledge of such issues, and the social context which provided little outlet for discussion of them.⁸¹ PTSD itself was only formally accepted in 1980,⁸² although other forms of reaction to war were recognised prior to that time.

4.53 The Repatriation Commission has stated that the Vietnam Veterans Counselling Service was established 20 years ago 'in recognition of the fact that there were Vietnam veterans who felt alienated from government processes'.⁸³ As well as developing the Centre for Post Traumatic Stress Disorder, the Commission has been instrumental in commissioning research on numerous mental health issues both in recognition of the fact that mental health is a major concern for veterans as well as current ADF personnel, and as part of the National Mental Health Strategy.⁸⁴

79 United States, Department of Veterans Affairs, '*Vietnam Veterans Benefit From Agent Orange Rules*' (2001) at www.vba.va.gov/bln/21/Benefits/Herbicide/AOno1.

80 M. Friedman, '*Current Trends in PTSD Research*,' NCP Clinical Quarterly 2(1): Fall 1991 at www.ncptsd.org/publications/cq

81 See, for example, B.Engdahl and R.Eberly, '*Assessing PTSD Among Veterans Exposed to War Trauma 40–50 Years Ago*,' NCP Clinical Quarterly 4(1): Winter 1994, at www.ncptsd.org/publications/cq/v4/n1/engdahl

82 See J. Hamblen, '*PTSD in Children and Adolescents*,' at www.ncptsd.org/facts/specific/fs_children

83 *Submission 8*, Repatriation Commission, p. 7, paragraph 37.

84 The latter, which is the responsibility of the Commonwealth Department of Health and Ageing, is concerned to identify the mental health needs of all Australians. In so doing it has developed greater awareness of a range of community needs in this field and, with other programs, can help to overcome some of the stigma that remains associated with psychiatric health.

4.54 This process is similar to that which occurred in the United States, where the US Veterans Affairs department has also responded to identified needs, though with the impetus coming much more obviously from Congress.⁸⁵ However, although PTSD was originally seen as peculiar to the Vietnam conflict, it was subsequently recognised as a disorder that affected other military veterans and the civilian population as well, with the National Centre for Post-Traumatic Stress Disorder also providing service to civilians:

[PTSD] is no longer considered an isolated problem for Vietnam veterans. PTSD is recognised as a major public health problem and a behavioural health problem for military veterans and active duty personnel subject to the traumatic stress of war, dangerous peacekeeping operations, and interpersonal violence.⁸⁶

Gulf War/s

4.55 Notwithstanding the perceived failure to learn lessons from the first Gulf War,⁸⁷ the United States has included various disorders deemed to have been war-related in its list of compensable illnesses (entitling the individual to disability payments).⁸⁸ It has also undertaken extensive research which addresses the existence of symptoms for which there is no clear diagnosis:

85 However, the extent to which Congress has initiated policy reform is difficult to assess, since the role of lobby groups has been important.

86 See M Friedman, 'About the National Centre for PTSD', NCP at www.ncptsd.org/about/index. See also www.ncptsd.org 'The National Centre for Post-Traumatic Stress Disorder (PTSD) was created within the Department of Veterans Affairs in 1989, in response to a Congressional mandate to address the needs of veterans with military-related PTSD. Its mission was, and remains: To advance the clinical care and social welfare of America's veterans through research, education, and training in the science, diagnosis, and treatment of PTSD and stress-related disorders'.

87 The United States considers the Gulf War to have been ongoing since 1990, distinguishing between the two Gulf Wars by names of battles, eg 'Iraqi Freedom'.

88 'Gulf War veterans who suffer from chronic disabilities resulting from undiagnosed illnesses, medically unexplained chronic multi-symptom illnesses (such as chronic fatigue syndrome, fibro myalgia, or irritable bowel syndrome) that are defined by a cluster of signs or symptoms, and any diagnosed illness that the Secretary of Veterans Affairs determines warrants a presumption of service-connection may receive disability compensation. The undiagnosed illnesses must have appeared either during active duty in the Southwest Asia Theatre of Operations during the Gulf War or to a degree of at least 10 percent at any time since then through December 31, 2006. The following symptoms are among the manifestations of an undiagnosed illness: fatigue, skin disorders, headache, muscle pain, joint pain, neurologic symptoms, neuropsychological symptoms, symptoms involving the respiratory system, sleep disturbances, gastrointestinal symptoms, cardiovascular symptoms, abnormal weight loss and menstrual disorders. A disability is considered chronic if it has existed for at least six months. Amyotrophic Lateral Sclerosis (ALS) may also be service-connected if the veteran served in the Southwest Asia Theatre of Operations', United States, Department of Veterans Affairs, *Benefits for Veterans and Dependents*, 2004, pp. 20–21.

Most have health problems similar to those experienced by veterans of other eras. However, some veterans report chronic multi-symptom illnesses that often are difficult to diagnose. Thus, most of the symptoms reported by veterans in VA registry examinations were found to be caused by conventional illnesses.

However, in about 20 percent of examinations, primary diagnoses of physical complaints could not be provided. (For comparison, approximately 17 percent of Vietnam veterans on VA's Agent Orange registry examination have undiagnosed symptoms).⁸⁹

4.56 Extensive websites and research/information programs on all aspects of Gulf War disorders including du, some by Veterans Affairs and some by the US Department of Defence. Research on Gulf War veterans had begun in 1992⁹⁰ and, in conjunction with the research undertaken by other agencies and the development of detailed health guides, extensive information is available to veterans, their families and doctors.⁹¹

4.57 The United States publicly acknowledges shortcomings in its capacity to address the needs of veterans within short time frames.⁹² It also acknowledges that veterans have been critical of services, not just in respect of the Gulf War, but those provided after earlier conflicts.⁹³ These two factors are likely to be important to veterans and currently serving personnel because they are recognition of the reality of their experience.

4.58 The development of extensive medical guidelines and training programs for those treating personnel involved in specific conflicts are also recognition of the reality of the symptoms experienced and of the need for professional awareness of the extent of these. This places the responsibility for dealing with identified health issues on medical staff, rather than on the individual.

89 See United States, Department of Veterans Affairs, *Guide to Gulf War Veterans' Health*, 2002 (originally published 1998), www.va.gov/gulfwar/docs/VHlgulfwar, p. 3.

90 United States, Department of Veterans Affairs, *Guide to Gulf War Veterans' Health*, 2002, p. 3: 'Since 1992, about 130,000 of the 750,000 Gulf War veterans from the US, Great Britain and Canada have received a systematic clinical registry examination conducted by the US Departments of Veterans Affairs (VA) and Defence (DoD), or comparable examination programs in other countries,' www.va.gov/gulfwar/docs/VHlgulfwar

91 '... in April 2001, VA announced the establishment of two new Centres for the Study of War-Related Illnesses, with the goal of serving not just for Gulf War veterans, but all veterans of past and future combat and peace-keeping missions,' United States, Department of Veterans Affairs, *Guide to Gulf War Veterans' Health*, 2002, p. 2, at www.va.gov/gulfwar/docs/VHlgulfwar

92 See above, paragraph 4.26 and see also above, Chapter 2, paragraphs 2.3–2.5.

93 See United States, Department of Veterans Affairs, *Guide to Gulf War Veterans' Health*, 2002, p. 2.

4.59 The awareness of ‘undiagnosed’ symptoms or unexplained illnesses arising from all conflict⁹⁴ does not lead to a rejection of the relevance of these, but more to a recognition of their inevitable appearance after all conflict and therefore the importance of addressing them. In fact, considering they are seen as almost inevitable, although varying in content, appropriate services can be developed to meet such needs in advance.

4.60 The *Australian Gulf War Veterans’ Health Study 2003*⁹⁵ has identified a similar pattern of unexplained illness in Australian veterans:

The Australian Gulf War Veterans’ Health Study was prompted by several factors. These include:

- the results of several overseas studies, which had shown that the Gulf War veterans from coalition partner countries were reporting poorer than expected health,
- an increasing number of reports among Australian Gulf War veterans of a wide range of medical problems, which were difficult to explain,
- concern amongst Gulf War veterans about the possible health effects of some of the exposures and experiences unique to the Gulf War, such as smoke and oil from burning oil wells (SMOIL), exposure to depleted uranium and the possible use of chemical or biological weapons.⁹⁶

Australian Gulf War veterans have an increased risk of psychological disorders including depression, anxiety, posttraumatic stress disorder and substance use disorders in the post Gulf War period and persisting within the previous 12 months. These psychological disorders are strongly associated with reported military service experiences that occurred in the Gulf War, especially the threat of attack

Australian Gulf War veterans have increased rates of reporting of all symptoms, and some medical conditions; in particular musculoskeletal, psychological, skin, respiratory and neurological conditions and these are associated with several reported exposures and experiences that occurred in the Gulf War. These include immunisations (especially where 10 or more were reported), pyridostigmine bromide and being in an area where chemical weapons had been used.⁹⁷

94 United States, Department of Veterans Affairs, *Guide to Gulf War Veterans’ Health*, 2002, p. 5: ‘poorly understood “war syndromes” characterised by multiple physical symptoms have been reported since at least the U.S. Civil War. Consistent with this observation, unexplained syndromes have been reported among troops involved in more recent hazardous military deployments to the Balkans and other areas around the world. Unexplained illnesses appear to be one inevitable health consequence associated with any hazardous military or peacekeeping deployment.’ See also *Submission 8*, Repatriation Commission, p. 9, paragraph 44.

95 See www.dva.gov.au/media/publicat/2003/gulfwarhs

96 www.dva.gov.au/media/publicat/2003/gulfwarhs, paragraph 19.1.

97 See www.dva.gov.au/media/publicat/2003/gulfwarhs, paragraph 19.2.

4.61 The report concluded, however, that although there was a higher level of reporting of some symptoms, there was no ‘unique symptom complex or cluster’ arising from the Gulf War.⁹⁸ Although Gulf War veterans may have been concerned that this study was not undertaken earlier, there has been some access to treatment nonetheless, which may reflect an increased awareness of the importance of acknowledging symptoms.

Effects of research on the development of programs

4.62 The ADF now has in place a more pro-active policy at least with respect to deployments, with efforts made to identify potential hazards, to protect personnel from these and to minimise injury.⁹⁹ It is also involved in research relevant to deployment:¹⁰⁰

Historically many Defence health studies were reactive in nature, in response to perceived problems or issues promoted by particular interest groups. DHSB is currently adopting a more pro-active response to future health research in the ADF and has initiated the conduct of operational health studies for more recent operations. Such studies should ideally begin prior to deployment however the short planning timeframes involved will not always allow this.¹⁰¹

4.63 It is also apparent that relatively recent audits and other reviews have contributed to some changes in the ADF health services and to the development of occupational health and safety plans.¹⁰² Generally speaking, ADF has responsibility for research into more recent deployments,¹⁰³ with DVA being responsible for work on older ones, although it is expected that the new Centre for Military and Veterans’ Health will gradually take over the research capacity from DVA.¹⁰⁴ The amount of available funding ‘will remain a key determinant in how much can be achieved’,¹⁰⁵ as far as Defence is concerned, although its objective would be ‘a structured research program’ which could address ‘a wide range of research issues’.¹⁰⁶

4.64 In Australia, the development of mental health services for both Vietnam veterans and others has increased considerably in recent years. Factors which limit

98 www.dva.gov.au/media/publicat/2003/gulfwarhs, paragraph 19.2.

99 See Chapter 2, paragraphs 2.22–2.30. See also *Submission 9*, Defence Organisation, pp. 8–9, paragraphs 43–45 on health and medical intelligence work.

100 *Submission 9*, Defence Organisation, p. 7, paragraphs 34–35, although see also the limitations involved in undertaking research on particular deployments, pp. 7–8, paragraph 37.

101 *Submission 9*, Defence Organisation, p. 8, paragraph 38.

102 See Chapter 2, paragraphs 2.92–2.97.

103 *Submission 9*, Defence Organisation, p.8, paragraph 41.

104 *Submission 8*, Repatriation Commission, p. 13, paragraphs 66–67.

105 *Submission 9*, Defence Organisation, p. 7, paragraph 35.

106 *Submission 9*, Defence Organisation, p. 7, paragraph 35.

social acceptance of mental health issues, including a tolerance of excessive alcohol consumption and violence, and a lack of connection between experience and various behaviours, have probably helped to disguise a level of need in society generally and veterans in particular. Even ADF health professionals appear reluctant to use the very services which they provide:

More of the 2002 group were aware of the availability of counselling services than the 1999 group, but no survey participants actually used counselling services. Most of the 1999 group and half of the 2002 group indicated that they would not use counselling services to cope with stress, even if they were available. This is of concern, as the survey respondents were health personnel who should have had an understanding of the value of mental health interventions.

The reluctance to use mental health services may be attributable to a perception that using such services is an admission of inability to cope and meet the obligations of a soldier.

Despite this reluctance, about 70% of participants felt that counselling services should be deployed.¹⁰⁷

4.65 This probably results in specific programs having gradual rather than immediate effects:

The amount of information available to veterans and health providers on mental health and related problems and coping strategies has improved with the implementation of their respective mental health and alcohol management strategies. However, as with the general community, the problem of poor mental health literacy and concern about the stigma of mental health disorders remain significant barriers for young veterans. Continued work is required to improve awareness and understanding of the nature of mental health problems experienced by veterans and ways to access assistance and treatment.¹⁰⁸

4.66 The ADF has set up an extensive program which seeks to address both drug/alcohol related issues and those arising from deployments. Information on these is provided in various publications and on the internet, with an emphasis on the fact that such issues are common and on providing advice on different sources for help.¹⁰⁹ There is therefore an effort to demonstrate that psychological problems including PTSD and difficulties in readjustment on return from deployment are to be expected, and not contrary to a military culture. However, there is no mention in the pamphlets of the fact that many people outside the military have similar problems, and that mental health issues are a major health concern for the Australian community in general.

107 Karl L Haas, Stress and mental health support to Australian Defence Health Service personnel on deployment: a pilot study, *ADF Health*, 4 (1) 2003, pp. 19–22.

108 *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 12.

109 See www.defence.gov.au/dfe/dhs/mental health—see *ADF Mental Health Strategy; Suicide Fact Sheet; and Post Traumatic Stress Disorder*.

4.67 The ADF has also changed its method of responding to ‘critical events,’¹¹⁰ and reorganised mental health services to provide regional teams that are working together:

A major limitation in the delivery of mental health services to the ADF identified in the ADF Health Status Report (2000) was the lack of integration between service providers. There are a number of organisations within Defence that deliver comprehensive mental health services, but due to a lack of integration they sometimes work at best in parallel and have the potential to work in opposition.¹¹¹

4.68 The increasing emphasis on the contribution of lifestyle does reflect the community expectation that individuals bear some responsibility for their own health. This responsibility also demands, however, that there be a duty of care to personnel to minimise the risks to which they are exposed, particularly in peacetime, including limitation of the high rate of injury. For some veterans and current personnel, there may be a belief that this duty of care is not well developed and that various factors make it difficult for an individual to ensure that the workplace has the appropriate standards and a commitment to enforcing them.

Research priorities

4.69 Research priorities are identified in various ways, with the joint Defence/DVA Medical Advisory Panel (MAP) identifying needs.¹¹² These decisions appear to be based on a range of data collected by Defence and DVA,¹¹³ and will include in time the data from post-deployment reviews. Defence also stated that:

The ADF documents health and human performance research requirements in a Master Plan, which is reviewed and updated annually. While this document is heavily influenced by the extant capabilities of relevant research organisations in Defence, the plan also indicates areas of research interest for which there is no intrinsic capability. The intention is that the Centre for Military and Veterans’ Health will link into external organisations that may provide some of those capabilities and the Master Plan should evolve to reflect more accurately research ‘requirements’ that could be addressed in these ways. Examples of areas where operationally relevant research might be undertaken are in the areas of gastro-intestinal disease and combat casualty care.¹¹⁴

110 www.defence.gov.au/dfe/dhs/mental health, *Enhanced Mental Health Service Delivery ADF Model of Critical Incident Mental Health Support*.

111 www.defence.gov.au/dfe/dhs/mental health, *Integration of Mental Health Services in Defence*.

112 *Submission 8*, Repatriation Commission, p. 12, paragraphs 59–61.

113 *Submission 8*, Repatriation Commission, p. 12, paragraph 60.

114 *Submission 9B*, Defence Organisation, p. 9.

4.70 The protocols and objectives for Defence health research are outlined in ADFP Personnel Series 1.2.5.3, *Health and Human Performance Research in Defence—Manual for Researchers*.¹¹⁵ The manual states that:

The primary focus [in research on the physical and/or mental health of personnel] is the study of the preventive, evacuation, treatment and rehabilitation strategies that will improve the management of health and health hazards encountered in areas of strategic interest to Australia.

Human performance research is defined as the group of investigations where the aim is to improve the normal performance, output and capability of humans to complete tasks and maintain or improve performance levels...this research has a focus on the development of human capacity and sustainability with respect to both physical and cognitive performance.¹¹⁶

4.71 This approach may include some measures to deal with non-deployment issues, but the emphasis is primarily on operational service.

Repatriation Commission/DVA

4.72 DVA has a long established research program which has increasingly been used to support new services intended to meet the identified needs of veterans.¹¹⁷ With the development of ADF data collections, technology such as HealthKEYS and EpiTrack, the initiation of health reviews following deployment, data from health plans, and the use of environmental data, future research will benefit from information that is collected before, during and within a short time of deployments. Such data will help DVA undertake programs and identify issues that affect those leaving the forces as well as current personnel, and place emphasis on younger veterans as well as those from earlier deployments.

4.73 DVA has indicated that the information which it obtains from its data collection and from research informs the development of more appropriate programs:

Two examples are:

Results of the Vietnam Veterans Morbidity Study which the Repatriation Commission developed into a range of program responses to enhance health service delivery for this veteran cohort; and

An analysis of mental health disorders in the veteran community conducted to inform development of DVA's mental health policy led to research on the pathways to care taken by veterans recently compensated for a mental

115 *Submission 9*, Defence, Attachment G, ADFP Personnel Series 1.2.5.3, *Health and Human Performance Research in Defence—Manual for Researchers*.

116 *Submission 9*, Defence Organisation, Attachment G, ADFP Personnel Series 1.2.5.3, *Health and Human Performance Research in Defence—Manual for Researchers*, Chapter 1, sections 1.4, 1.5.

117 *Submission 8*, Repatriation Commission, pp. 5-19, Paragraphs 23–88.

health disability. The Repatriation Commission will consider the findings of this research in the near future.¹¹⁸

4.74 DVA also has a somewhat different perspective of veterans, since it may see more directly the needs of different groups through its knowledge of the nature of applications being made for compensation and a range of other sources.¹¹⁹ Given that DVA is aware of the constancy of certain responses to deployments, and has gradually developed programs to meet such needs, their input into research on current deployments may also be of use in defining probable needs for current personnel, rather than waiting for these to become veterans with ill-defined needs. DVA was responsible for the establishment of the then National Centre for War-Related PTSD, in 1995, which later became the CPMH:

The Australian Centre for Posttraumatic Mental Health (ACPMH), working in collaboration with the Department of Veterans' Affairs (DVA) and the Australian Defence Force (ADF), as well as with clinicians, researchers, and consumers around Australia, acts as a focus for an integrated approach to veteran and military mental health.

The active involvement of both the ADF and DVA provides new opportunities to address psychiatric morbidity at every stage, from recruitment through deployments and discharge to veteran status.¹²⁰

4.75 This Centre has a major role in the provision of clinical services, including early intervention, training, and collection of data on outcomes of treatment. It therefore provides an external view of services provided and covers both current ADF personnel and veterans.¹²¹ DVA's continued involvement with this Centre will help provide it with insight into current issues and an awareness of the ways in which the ADF is dealing with these:

In 2000 the Repatriation Commission determined that the role of the Australian Centre for Posttraumatic Mental Health (ACPMH) should be expanded beyond a focus on PTSD to include broader mental health conditions that impact on veterans. ACPMH has provided assistance with the development of guidelines for the treatment of anger management problems and currently is developing alcohol treatment guidelines. This work specifically relates to treatment of veterans. However, the centre has also established liaisons and other work with the Australian Defence Force (ADF) with regard to post-deployment adjustment and development of the ADF alcohol strategy.

118 *Submission* 8B, Department of Veterans' Affairs, p. 13.

119 See above, Chapter 3, paragraphs 3.31–3.34.

120 Professor Mark Creamer and Professor Bruce Singh, The Australian Centre for Posttraumatic Mental Health, An integrated approach to veteran and military mental health, *ADF Health*, 5(1) 2004, pp. 36–39.

121 Professor Mark Creamer and Professor Bruce Singh, The Australian Centre for Posttraumatic Mental Health, An integrated approach to veteran and military mental health, *ADF Health*, 5(1) 2004, pp. 36–39.

Other research work undertaken by the centre covers areas such as Alzheimer's disease, psychiatric morbidity, cognitive counselling techniques, anxiety disorders, depression, psychometric analysis, Quality of Life assessments, military stress and performance and schizophrenia.¹²²

Research priorities

In determining the Commission's research agenda, many factors are considered. These include the wishes of the veteran community, the scientific interest in the questions that are raised, the viability of the proposed research, the availability of resources, and ethical, legal and moral considerations.¹²³

Issues raised by veterans

4.76 Several issues were raised by ESOs on research programs, including:

- Lack of adequate research undertaken on mental health.¹²⁴
- Limited holistic approach to health, especially on the issue of the interaction of effect of exposure to multiple substances or multiple exposures to substances;¹²⁵ and
- Concern that research is being replicated, and therefore that decisions about some issues could be made if existing research was accepted.¹²⁶

Lack of research on mental health

4.77 There has been an increase in mental health research, especially for younger veterans, which will continue with the work of the ACPMH, which looks at all mental health issues. DVA has also stated that the ACPMH has paid limited attention to the needs of older veterans, and that its main focus has been on Vietnam veterans and those from more recent deployments:

The needs of older veterans has not been a major focus for the centre to date. ACPMH accredits PTSD treatment programs of which two programs are specifically tailored to the needs of older veterans. Much of the centre's work, since opening in 1995, has been focussed on the group of Vietnam veterans who have been highly represented in the cohorts of PTSD treatment programs. It's more current collaboration with the ADF means it

122 *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 5.

123 *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 4.

124 *Submission 6*, Australian Peacekeepers & Peacemakers Association, p. 2, paragraphs 9–14.

125 *Submission 5*, Regular Defence Force Welfare Association, p. 2, paragraph 11; *Submission 6*, Australian Peacekeepers & Peacemakers Association, pp. 3–4, paragraphs 14–15.

126 *Submission 4*, British Commonwealth Occupation Force Executive Council of Australia, pp. 1–2.

has been developing a body of knowledge and experience about the needs of more recent young veterans and current serving ADF personnel.¹²⁷

4.78 In May 2004 DVA circulated a consultation paper, *Towards Better Mental Health for the Veteran Community*, which notes proposed changes arising from reports and also from the National Mental Health Plan.¹²⁸ DVA has also released *Mental Health Disorders in the Veteran Community and their Impact on DVA's Programs*,¹²⁹ based on 1997–1998 data. 'A total of 87,874 people met one or more of the inclusion criteria, representing 26% of the DVA treatment population'.¹³⁰

4.79 Matters of specific interest to some groups of veterans, such as the differing stressors produced by different roles,¹³¹ may also be studied by individuals or units outside of the ADF and Repatriation Commission research areas, including those with direct experience:

Peacekeeping missions, which bring soldiers into war zones as non-combatants, present a wide variety of stresses that have short- and long-term effects on mental health. Frequently, peacekeepers witness large-scale devastation and atrocities. Soldiers are trained to win the day by the application of tactics and up to date weaponry, yet peacekeeping and humanitarian missions generally restrict tactical freedom and the use of force, exposing soldiers to stresses for which they are not prepared or trained, large-scale devastation and atrocities. Various authors have described UN personnel as exposed to a wider range of stressors than they would be in combat. Isolation, boredom, feelings of frustration, rage and helplessness due to strict UN rules of engagement, which only allow a soldier to shoot if under direct threat of loss of life or limb, all increase the stress of military personnel in a peacekeeping role.¹³²

4.80 DVA is well aware of the concerns of the younger veteran groups, and believes that ESOs are familiar with the work undertaken by the ACPMH.¹³³ There seems no reason to suppose that the specific issues raised on peacekeeping or peacemaking would not be addressed. However, it may be that the relevant organisations need to outline proposals for research which will cover areas of need.

127 *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 6.

128 Department of Veterans' Affairs, *Towards Better Mental Health for the Veteran Community*, pp. 1–2, at www.dva.gov.au/health/younger/mhealth/policy

129 Department of Veterans' Affairs, *Mental Health Disorders in the Veteran Community and their Impact on DVA's Programs*, at www.dva.gov.au/health/younger/mhealth/data

130 *Mental Health Disorders in the Veteran Community and their Impact on DVA's Programs*, p. 4 at www.dva.gov.au/health/younger/mhdata

131 *Submission 6*, Australian Peacekeepers & Peacemakers Association, p. 2, paragraph 11.

132 Karl L Haas, 'Stress and mental health support to Australian Defence Health Service personnel on deployment: a pilot study', *ADF Health*, 4 (1) 2003, pp.19–22.

133 *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 5.

Limited holistic research

4.81 One of the problems identified by DVA in undertaking research on multiple exposures is the difficulty of establishing cohorts:

More recent deployments have tended to involve smaller numbers of personnel. Moreover, in many of these deployments the same individuals have participated in multiple deployments, and each of the deployments has multiple exposures. These circumstances of small deployments, multiple deployments and multiple exposures make attributing causality difficult.¹³⁴

4.82 While there has been some research on exposures, such as may have contributed to the Gulf War syndrome, it could be impossible to separate out individual causal factors. It may be possible to identify some cases where new personnel have deployed, such as in some of the US forces in the 2nd Gulf War battles, because they have limited previous exposure; but if they receive multiple exposures in conflict, the benefit of such research may be minimal. It is possible also that if similar effects are seen after all conflict, there will be a tendency to move towards treating symptoms rather than seeking a diagnosis, which may put more emphasis on psychiatric issues than on the physical effects of exposure—not necessarily what veterans want.

Replication of research

4.83 This concern has been addressed by the Repatriation Commission which outlines the reasons why some research duplication is necessary, and how specific factors may mean the experience of Australians in some deployments may differ from those of personnel from other countries in the same deployment.¹³⁵

It is important to note that DVA's research efforts in these fields are not taken in isolation...Its studies are usually carried out at the same time that similar research is being undertaken in the United States, the United Kingdom, Canada, New Zealand and other nations.

Often, the research by other countries is on deployments that are similar to those of the ADF. This similarity of deployments, necessarily with some duplication of effort, has both advantages and disadvantages. Often when there has been a good study of a particular problem...an argument might be raised that reduplication of what others have already found is not a prudent use of limited resources. Conversely in science there is a need to confirm finding made in other studies, and, when two groups of researche[r]s make the same finding, working independently of each other, the two findings have a synergistic value.¹³⁶

134 *Submission 8*, Repatriation Commission, p. 11, paragraph 52.

135 *Submission 8*, Repatriation Commission, p. 9, paragraph 43; pp.14–15, paragraphs 69–70, 72.

136 *Submission 8*, Repatriation Commission, p. 14, paragraphs 69–70.

4.84 It could also be argued that in many cases, the research will cover somewhat different factors, given that forces may have been subject to different types and amounts of exposures, have different experience, and are undertaking different work. It may also be that this difference is so great or the methodology is not acceptable that the work of other bodies will not always be accepted as useful.¹³⁷

4.85 A further issue is that which has been referred to previously, that while much research may not find a correlation between events and illness, political and policy factors may result in different outcomes for veterans of different countries. The most effective use of the research of other countries is to use what is generic, where possible, and also to explain why it is that there is not sufficient evidence to demonstrate causal links, or why different systems will accept some situations.

Women

4.86 There was no detailed reference to the specific needs of women in the ADF, or to any research areas which they may wish to have addressed.¹³⁸ Given that their health needs are different, it may be useful for both the ADF and DVA to consider the US military websites which have a specific website for women members.

4.87 While women may be included within the research into the needs of younger veterans, their particular needs should be identified for all research on issues where they are represented. However, it is noted that in many instances, the numbers of women involved in deployments will often be too low to obtain any meaningful results:

Only 38 female Australian Gulf War veterans took part in the study, which was 84% of those who served there. This small number meant that there was limited statistical power for the analysis of this group. However, a similar, but less marked, pattern in relation to adverse psychological outcomes as for male Gulf War veterans was found. No firm conclusions can be made about any of the other physical health indicators studied, due to the very small numbers of female Gulf War veterans.¹³⁹

137 *Submission 8A*, Repatriation Commission/Department of Veterans' Affairs, p. 14.

138 See above, Chapter 2, paragraphs 2.98–2.101.

139 *Australian Gulf War Veterans' Health Study 2003*, www.dva.gov.au/media/publicat/gulfwar paragraph 19.219.