

# Health Promotion in the Australian Defence Force

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## Introduction

This article follows previous papers by the author regarding occupational and environmental medicine in the ADF.<sup>1,2,3,4,5,6,7,8</sup>

These articles, as well as a recent Productivity Commission inquiry,<sup>9</sup> indicate that high workplace illness and injury rates confirm the need to improve the management of hazards associated with ADF workplaces, with better emphasis on prevention. To this end, a submission by the Royal Australasian College of Physicians to the aforementioned inquiry advocated this would best be achieved by basing the ADF's health services on a systems-based occupational health strategic model.<sup>10</sup>

Doing so would require reassessing the fundamental inputs to capability<sup>11</sup> for both Joint Health Command (JHC) and Defence's Work Health and Safety Branch. The current state of the ADF's occupational and environmental health services, and the small number of civilian specialist practitioners within the Australasian Faculty of Occupational and Environmental Medicine (AFOEM), suggest that a mature holistic and sustainable model would take 10–15 years' sustained effort.

This article expands on these papers, with respect to the provision of military health promotion activities for ADF members.

## Military health promotion

The World Health Organisation (WHO) defines health promotion as 'the process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions'.<sup>12</sup>

While acknowledging the importance and relevance of this definition, the importance of military health promotion as an operational capability enabler also warrants consideration. One of the more egregious historical examples where this did not occur would be Rear Admiral Francis Hosier's operations in the West Indies in 1726–29: he, both his successors in

command and 4000 men all succumbed to yellow fever while blockading Portobello in modern Panama, out of a force that never exceeded 3300 at any one time, without a shot being fired.<sup>13</sup>

Commodore George Anson's 1740–44 world circumnavigation did only marginally better. Having left the UK with 1967 men, he returned having lost 1240 (63%), of whom only four were killed in action. The rest died through being medically unsuitable for deployment in the first place, as well as by heat and cold exposure, malaria, dysentery, typhus and scurvy.<sup>14</sup>

Somewhat more recently, General William Slim wrote of the 1941–45 Burma campaign:

*'In 1943, for every man evacuated with wounds we had one hundred and twenty evacuated sick. The annual malaria rate alone was eighty-four per cent per annum of the total strength of the army, and still higher among the forward troops. Next to malaria came a high incidence of dysentery, followed in this gruesome order of precedence by skin diseases and a mounting toll of mite or jungle typhus, a peculiarly fatal disease. At this time, the sick rate of men evacuated from their units rose to over twelve per thousand per day. A simple calculation showed me that in a matter of months at this rate my army would have melted away. Indeed, it was doing so under my eyes'.<sup>15</sup>*

Closer to Australia, General Douglas MacArthur said to his staff medical officer in May 1943:

*'Doctor, this will be a long war if for every division I have facing the enemy, I must count on a second division in hospital with malaria, and a third division convalescing from this debilitating disease!'<sup>16</sup>*

Even so, it has been suggested that the Western Allies' health promotion efforts in both World Wars gave them a significant operational edge over their

opponents.<sup>17,18</sup> Furthermore, the ability to prosecute the subsequent conflicts in southeast and southwest Asia certainly would not have been possible without effective military health promotion.<sup>19</sup>

Yet, infectious disease can still significantly impede military operational capability.<sup>20,21</sup> For example, a survey by Hyams et al. of 2022 US military personnel during the 1990–91 Gulf War indicated that, after an average of two months in Saudi Arabia, 57% had at least one episode of diarrhoea, with nearly a third reporting they were temporarily unable to carry out their duties.<sup>22</sup> Closer to Australia, 267 of the 5500 ADF personnel who had served up to six months in East Timor in 1999–2000 (4.8%), presented with malaria six months after their return.<sup>23</sup> Overall, the ADF recorded 359 such cases in 2000, with 306 from East Timor, and another 32 from Bougainville and Papua New Guinea.<sup>24</sup>

### Current ADF health promotion

These examples highlight military health promotion activities as a key operational enabler: not only by conserving labour via reducing the demand for treatment and evacuation services by minimising disease risk, but also by optimising each member's health in order to give them a capability edge over their opponents. Both benefits are essential for small forces such as the ADF.

Military health promotion activities include targeted vaccination programs, effective field and shipboard hygiene, and vector-borne infectious disease prevention. To these can be added health education activities such as first aid, personal hygiene and dental care, heat and cold stress management, sunburn and insect bite prevention, alcohol and other drug awareness, and diet and weight control. Particular attention should also be given to enhancing physical resilience and mental health.

The effectiveness of such measures can be illustrated by the response to the aforementioned ADF malaria rates in East Timor, Bougainville and Papua New Guinea: the total number of new cases was reduced to 31 in 2001,<sup>25,26</sup> and 27 in 2002.<sup>27,28</sup>

*Royal Australian College of General Practitioner's 'Red Book'*<sup>29</sup>

Current JHC guidance for the conduct of primary care health promotion is based on the *Guidelines for preventive activities in general practice*—the 'Red Book'. Its remit is to cover 'primary' (preventing the initial occurrence of a disorder) and 'secondary' (preventive early detection and intervention) activities.

Review of the 'Red Book' demonstrates a comprehensive range of preventive medicine activities, including:

- preventive activities prior to pregnancy
- genetic counselling and testing
- preventive activities in children and young people
- preventive activities in middle age
- preventive activities in older age
- communicable diseases
- prevention of chronic disease
- prevention of vascular and metabolic disease
- early detection of cancers
- psychosocial.

However, the 'Red Book' also specifically states that its preventive activities are geared to the Australian general practice population, rather than specific subgroups such as Indigenous Australians or LGBTQI communities. Furthermore, the 'Red Book' does not include detailed information regarding the management of specific health risk factors, while the scope of its guidance regarding infectious disease prevention is limited to those typically only seen in Australia.<sup>30</sup>

Regarding the latter, the 'Red Book' has only limited travel medicine advice, instead referring to the United States' Centers for Disease Control and Prevention, and the WHO International Travel and Health websites.<sup>31,32</sup> Both are already used (among others) for ADF operational health planning purposes.

As the 'Red Book' is not designed or targeted for a working age group of mainly young employees who are liable to deploy to locations where they will encounter health threats unlikely to be found in the general Australian population, this paper contends that the ADF constitutes its own subgroup, comparable to the aforementioned Indigenous and LGBTQI communities. As such, the 'Red Book' only constitutes a baseline for further military-specific health promotion activities.

Furthermore, without decrying their importance for the health and wellbeing of ex-ADF members as they age, the role of military health promotion as an operational enabler implies that 'Red Book' healthy lifestyle interventions related to (among others) smoking cessation, treatment of hypertension and/or weight control, should not of themselves prevent them from deploying, if such activities are elective in nature and/or do not prevent them from performing their regular duties.

This assertion reflects the extent to which the effects of unnecessarily preventing ADF members from deploying must not be underestimated. Besides compromising operational capability in the immediate term (for example regarding 'ship-stopper' crew members), it also impedes medium- and longer-term operational capability by delaying their career progression, which may result in eminently avoidable retention issues. To these may be added unintended consequences regarding future patient compliance and willingness to present to ADF health staff, as well as perception management issues, not only regarding individual health staff members who may be perceived as needlessly blocking their career aspirations, but also the ADF's health services in general.

#### *ADF health assessments*

ADF periodic health assessments are presently conducted every five years until age 40, with progressively shorter intervals thereafter.<sup>33</sup> At present, these timeframes do not reflect personnel or occupational health legislative considerations, but resourcing issues based on the health promotion guidance per the 'Red Book'. From an occupational and environmental health perspective, using this guidance for a highly medically selected, young and generally fit ADF population is unduly conservative—evidence suggests they can be performed five-yearly until age 60.<sup>34</sup>

Furthermore, the ADF health assessment's scope needs to be far broader than the 'Red Book' healthy lifestyle checks. The author has previously explained why such examinations do not preclude the requirement for additional targeted periodic and other health assessments (followed by the relevant health promotion activities) in order to:

- align with the non-deployment-related legislative requirements of the *Work Health and Safety Act 2011* and its implementing regulations, as well as Safework Australia's supporting guides, National Standards and Model Codes of Practice.<sup>35,36,37</sup> Review of the Defence Health Manual has confirmed the extent to which the ADF's current policy guidance with these standards is reactive and incomplete.<sup>38</sup>
- confirm health status prior to deployment (including sea postings for Navy and other ADF personnel), with respect to their medical employment standard and deployment-specific vaccinations and other preparations, and 're-baselining' their medical status for subsequent compensation purposes.<sup>39</sup>

#### *Musculoskeletal injuries*

A key consideration regarding health promotion activities to enhance physical resilience is that they should not exacerbate old injuries, or cause new ones.

The author has previously noted that, anecdotally, perhaps 30–40% of ADF primary care presentations pertain to musculoskeletal (MSK) injuries, of which about half are work-related slips, trips and falls, while the remainder are sports-related.<sup>40,41</sup> In support of this assertion, the ADF's Health Surveillance System (EpiTrack) showed that in 2007–08 and 2008–09, the most common medical conditions were injuries and MSK disorders. These were also the most common conditions resulting in sick leave.<sup>42</sup>

The relevance of effective health promotion for preventing compensable MSK injuries should not be underestimated. For example, a 2009 study of DVA compensation claims for chondromalacia patellae (CMP), indicated that the incidence of this overuse injury alone within Navy was 0.33% per year, most of which developed in the first years of service.<sup>43</sup> If CMP is one of the five most common MSK disorders in Navy, and if the incidence rates of these conditions are comparable, 1.65% of its workforce (231 new cases, or more than one *Hobart DDG* crew) will sustain compensatable yet eminently preventable MSK injuries every year.

Furthermore, Table 1 lists the 15 most frequently claimed conditions under the *Veteran's Entitlements Act 1986* (VEA) in 2014–15. These make up 61.5% of all conditions claimed under the VEA from current and ex-serving members, based on the Statements of Principles of the Department of Veterans Affairs' Repatriation Medical Authority. Table 1 suggests that 20.5% of these claims were for MSK conditions.<sup>44</sup>

Table 2 lists the 15 most frequently claimed conditions under the *Safety, Rehabilitation and Compensation Act 1988* (SRCA) in 2014–15, which make up 85% of all conditions claimed under the SRCA from current and ex-serving members. Table 2 suggests that about 63.7% of all SRCA claims were for MSK conditions.

Table 3 lists the 15 most frequently claimed conditions under the *Military Rehabilitation and Compensation Act 2004* (MSRCA) in 2014–15, which make up 56.5% of all conditions claimed under the MSRCA from current and ex-serving members. Table 3 indicates that at least 33.9% of all SRCA claims were for MSK conditions.

**Table 1: 15 most frequently claimed conditions (based on VEA Statements of Principles) in 2014–15<sup>45</sup>**

Disability	Claims accepted	Acceptance rate	Claims rejected	Total claims
Osteoarthritis	1,623	76%	514	2,137
Sensorineural hearing loss	1,372	99%	14	1,386
Tinnitus	1,307	98%	26	1,333
Lumbar spondylosis	930	84%	181	1,111
Solar keratosis	640	99%	9	649
Posttraumatic stress disorder	472	76%	151	623
Non-melanotic skin cancer	533	99%	7	540
Depressive disorder	270	56%	211	481
Alcohol use disorder	218	55%	176	394
Hypertension	100	31%	219	319
Cervical spondylosis	82	28%	211	293
Ischaemic heart disease	154	53%	139	293
Acquired cataract	223	100%	1	224
Rotator cuff syndrome	70	32%	150	220
Chronic bronchitis	124	60%	84	208
<b>Totals</b>	<b>8,118</b>	<b>79%</b>	<b>2,093</b>	<b>10,211</b>

**Table 2: 15 most frequently claimed conditions under the SRCA in 2014–15<sup>46</sup>**

Disability	Claims accepted	Acceptance rate	Claims rejected	Total claims
Sprains and strains of joints and adjacent muscles	552	66%	279	831
Deafness	128	48%	141	269
Mental disorders	78	39%	120	198
Other and unspecified injuries	90	67%	45	135
Disorders of muscle, tendons and other soft tissues	92	74%	32	124
Other diseases	36	39%	56	92
Superficial injury	21	29%	52	73
Fractures	45	66%	23	68
Arthropathies and related disorders—disorders of the joints	35	65%	19	54
Dorsopathies—disorders of the spinal vertebrae and intervertebral discs	36	69%	16	52
Other diseases of skin and subcutaneous tissue	24	51%	23	47
Other disorders of the eye	19	46%	22	41
Osteopathies, chondropathies and acquired musculoskeletal deformities	26	72%	10	36
Other malignant neoplasms and carcinomas	7	21%	26	33
Other diseases of the ear and mastoid process	10	33%	20	30
<b>Totals</b>	<b>1199</b>	<b>58%</b>	<b>884</b>	<b>2083</b>

**Table 3: Top 15 statements of principles used in MRCA decision making in 2014–15<sup>47</sup>**

Disability	Claims accepted	Acceptance rate	Claims rejected	Total claims
Sprain and strain	1514	90%	176	1690
Osteoarthritis	732	82%	161	893
Tinnitus	710	96%	27	737
Depressive disorder	518	74%	184	702
Fracture	591	86%	94	685
Lumbar spondylosis	567	87%	87	654
Sensorineural hearing loss	556	90%	64	620
Rotator cuff syndrome	509	89%	60	569
Post traumatic stress disorder	460	88%	65	525
Joint instability	300	88%	42	342
labral tear	289	88%	39	328
Chondromalacia patellae	281	89%	34	315
Intervertebral disc prolapse	260	88%	35	295
Shin splints	286	98%	6	292
Acute meniscal tear of the knee	230	89%	27	257
<b>Totals</b>	<b>7803</b>	<b>88%</b>	<b>1101</b>	<b>8904</b>

In short, these tables indicate the extent to which the ADF's current physical fitness programs are in fact impeding operational capability by exacerbating old MSK injuries and creating new ones. Furthermore, the fact that only 11–19% of Army Reserve and Regular work-related injuries and illnesses are currently being reported on the Defence Work Health and Safety Compensation and Reporting (WHSCAR) System ('Sentinel'),<sup>48</sup> indicates that the number of work-related MSK injuries across all three services is grossly underestimated. Hence too many MSK injuries are considered 'business as usual' rather than eminently preventable through interventions including effective health promotion.

#### *Mental health conditions*

Tables 1–3 indicates that in 2014–15, at least 3.7% of VEA claims, 5.5% of SRCA claims and 7.1% of MRCA claims were for mental health (MH) conditions. High rates in the civilian community, and their usually self-limited nature, are consistent with the author's previous assertion that perhaps 30–40% of ADF clinical presentations are for generally preventable MH issues. Anecdotally, perhaps half of these members lack psychological robustness for whom the ADF has been a poor career choice; the remainder tend to be members who are psychologically robust but are not coping with excessively demanding

or otherwise dysfunctional ADF workplaces or personnel management practices.<sup>49</sup>

It should be noted, while up to 22% of ADF members may have a diagnosable MH disorder, their deployment status did not have an impact, despite the grossly traumatic circumstances associated with some deployments.<sup>50,51</sup> This confirms the need for military MH promotion programs to enhance normal workplace and personnel management practices in the base setting as well as while deployed. To this end, the Royal College of Physicians *Health Benefits of Good Work* offers some useful guidance. The key theme is how healthy workplaces—including MH—are a leadership, management and supervisor (i.e. not simply a health) responsibility.<sup>52</sup>

#### Conclusion

With ADF personnel arguably exposed to the most diverse range of occupational and environmental hazards of any Australian workforce, high rates of preventable workplace illness and injury indicate the need to improve the management of occupational and environmental health hazards with more emphasis on prevention than treatment.

Although it provides extensive preventive health guidance, the 'Red Book' only provides a baseline

for additional military-specific health promotion activities. Rather than the current reactive and ad hoc approach (especially regarding non-deployed workplaces), there is a need for a far more systematic application of:

- compliance with the *Work Health and Safety Act 2011* and its implementing regulations, as well as Safework Australia's supporting guides, National Standards and Model Codes of Practice
- better targeted military- and mission-specific vaccination programs, effective field and shipboard hygiene, and vector-borne infectious disease prevention.
- military health education programs on topics such as (but not limited to) first aid, personal hygiene and dental care, heat and cold stress management, sunburn and insect bite prevention, alcohol and other drug awareness, and diet and weight control. A key consideration is that healthy lifestyle interventions should not prevent personnel from deploying if they are elective in nature and/or do not prevent them from performing their normal duties.
- military workplace physical fitness programs that do not of themselves exacerbate old injuries or cause new ones
- military workplace MH promotion programs that, besides enhancing mental resilience during deployments, generally enhance typical workplace and personnel management practices in the base setting as part of the broader guidance per the *Health Benefits of Good Work*.

It should also be noted, military health promotion programs are additional to, and not a substitute for, ensuring that ADF workplaces are healthy and safe in the first instance.

These considerations further support the contention that the ADF's health services should be premised on an occupational-health-based systems model, with revised fundamental inputs to capability that would lead to a range of genuinely holistic, sustainable and fit-for-purpose health services over the next 10–15 years.

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Commander Westphalen transferred to the Active Reserve in 2016. Comments regarding this and previous articles are most welcome.

### Disclaimer

The views expressed in this article are the author's and do not necessarily reflect those of the RAN, or any of the other organisations mentioned.

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Disclaimer: the author was requested to draft this submission, as a member of the AFOEM Policy and Advocacy Committee (PAC). It was cleared by both the Faculty and College PACs prior to submission.
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