



# Occupational Medicine in Defence

Dr Cath Kelaher SMA OCCMED JHC



TO DEFEND AUSTRALIA AND ITS NATIONAL INTERESTS WE CONDUCTED:

**25 operations** [p.10]

including the **deployment of ADF personnel to support disaster relief operations** in response to:

- bushfire; [p.34]
- floods; and
- tropical cyclone events.



TO ADVANCE AUSTRALIA'S PROSPERITY WE CONTRIBUTED:

**\$29.41 billion** [p.48]

to our economy,

and, we approved

**2,966**

export permits. An increase of **240 permits**. [p.49]



WE INVESTED IN INNOVATION, SCIENCE AND TECHNOLOGY:



[p.82]  
with the Advanced Strategic Capabilities Accelerator (ASCA) established. [p.83]

We also placed **third** at the world's largest cyber event – NATO Cooperative Cyber Defence Centre of Excellence.

FOR DEFENCE INDUSTRY WE:

invested in local munitions productions

at Mulwala and Benalla in NSW [p.4] and, we



signed contracts with Lockheed Martin [p.4]

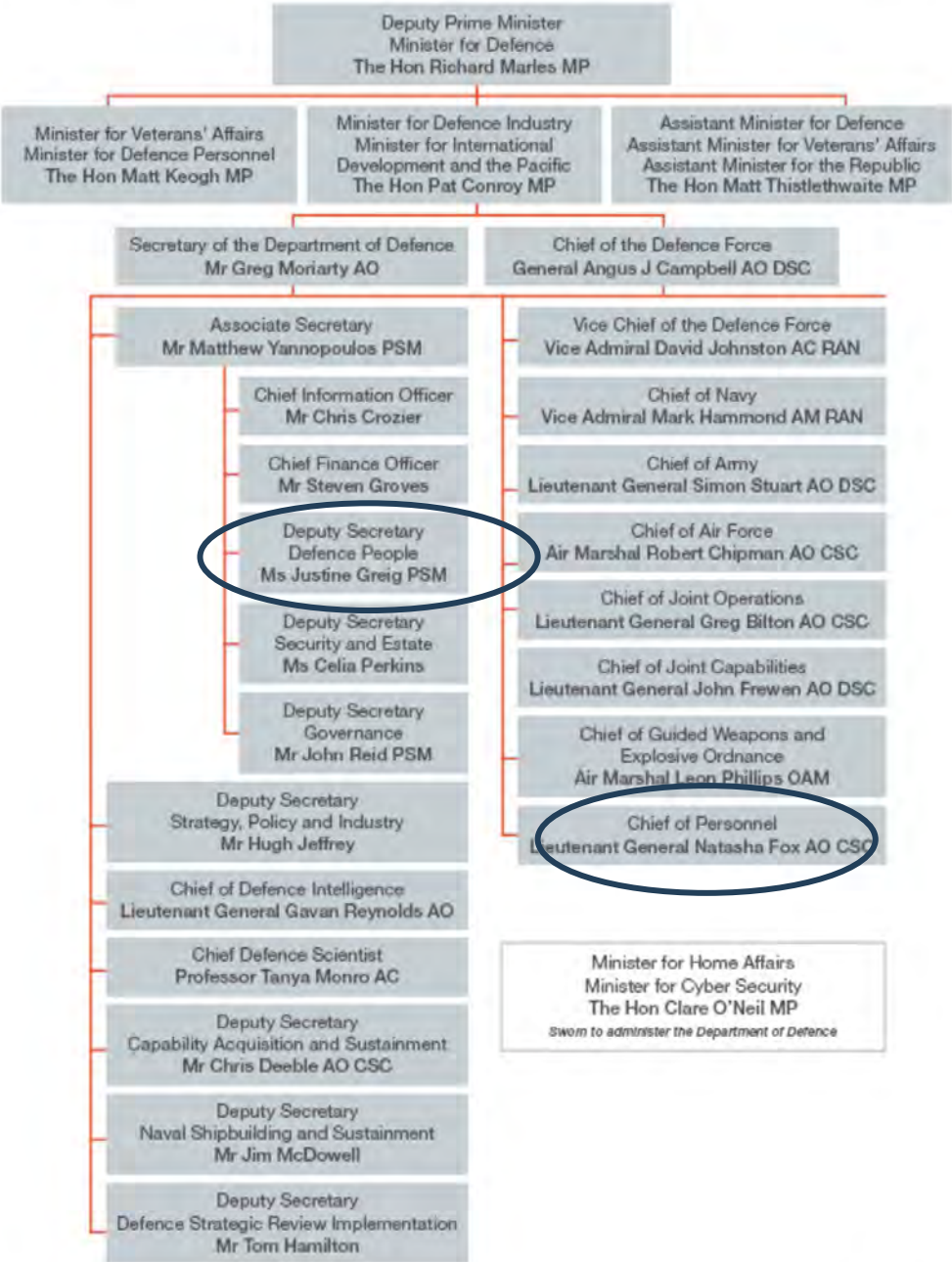
to domestically produce guided multiple launch rocket systems.



achieved  
**\$4.9 billion**

milestone in contract value for **First Nations businesses** (since 2015). [p.60]

Figure 2.3 shows the elements and relationships of Defence's organisational structure as at 30 June 2024.



1. This organisational chart is correct as at 30 June 2024. For a more current organisational chart, view:

<http://www.defence.gov.au/about/who-we-are/organisation-structure>



# JHC

- Lead by Command Joint Health
  - Commanding and delivering health services
  - Ensuring clinical standards and profession integrity
- JHC provides
  - Primary, occupational, and mental health care to ADF members
  - Health support for operations and deployments
  - Policy and governance for health preparedness, workforce, and clinical standards
  - Oversight of the ADF Centre for Mental Health
  - Management of the Defence eHealth System



# SMA OCCMED

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**CJHLTH**

**COMMANDER  
JOINT HEALTH**

**SURGEON GENERAL  
AUSTRALIAN DEFENCE FORCE**

**OPERATIONAL HEALTH  
GARRISON HEALTH  
HEALTH POLICY+PROGRAMS  
HEALTH BUSINESS+PLANS  
ADF MALARIA & INFECTIOUS  
DISEASE INSTITUTE**





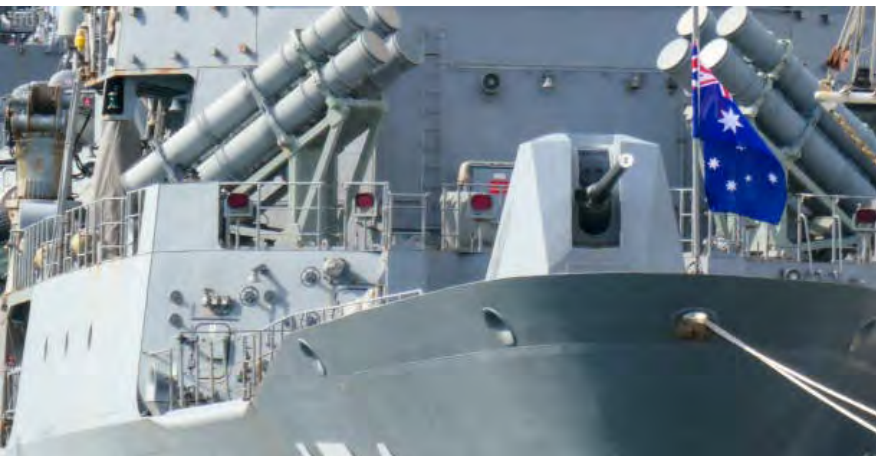
# Military medicine

- Specialised branch of medicine focused on the health, wellbeing, and operational readiness of military personnel in both peacetime and conflict.
- Includes combat casualty care, aeromedical evacuation, preventive medicine, field hygiene and sanitation, and military psychiatry.
- Encompasses human performance optimisation, rehabilitation, medical planning, and force health protection.
- Involves adaptation of medical practice to austere, resource-limited, and high-risk environments, such as battlefields, deployments, and ships.
- Integrates clinical, preventive, occupational, and operational medicine within a military context.



1st Combat Engineer Regiment clear the objective at the Bradshaw training area, 2024. IMAGE CREDIT: Captain Annie Richardson.

1st Combat Engineer Regiment clear the objective at the Bradshaw training area, 2024. IMAGE CREDIT: Captain Annie Richardson.



## 2023-24 DEFENCE WORKFORCE SNAPSHOT

**76,691**

Total Defence permanent workforce.



**57,226**

Permanent ADF members.



**19,465**

Ongoing APS employees.



**366**

Non-ongoing APS employees.

**89,786**

Total ADF permanent workforce.



**19,586**

Navy permanent and Reserve workforce.



**48,598**

Army permanent and Reserve workforce.



**21,602**

Air Force permanent and Reserve workforce.

**32,560**

Total Reserve permanent workforce.



**571**

Increase, Reserve headcount.



**964**

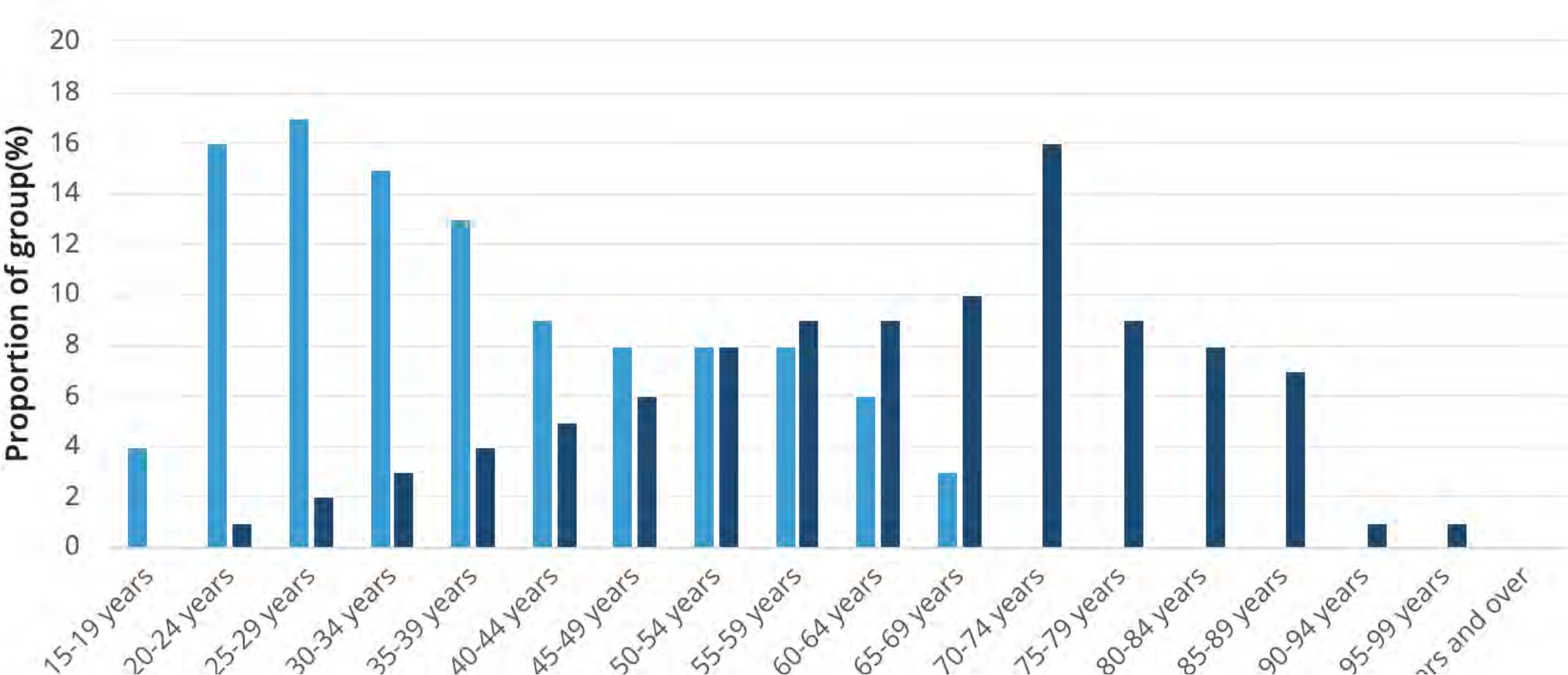
Reservists that are also Defence APS employees.



# Current or previous service in the ADF by age group(a), 2021

Graph Table

Download





# Health class

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- **MEC1:** Fully Employable and Deployable
- **MEC2:** Limited Employability/  
Deployability
- **MEC 4:** Transition Category
- **MEC 5:** Medically Unfit for Further Service





Aviation medicine





Dive medicine



# Submarine medicine





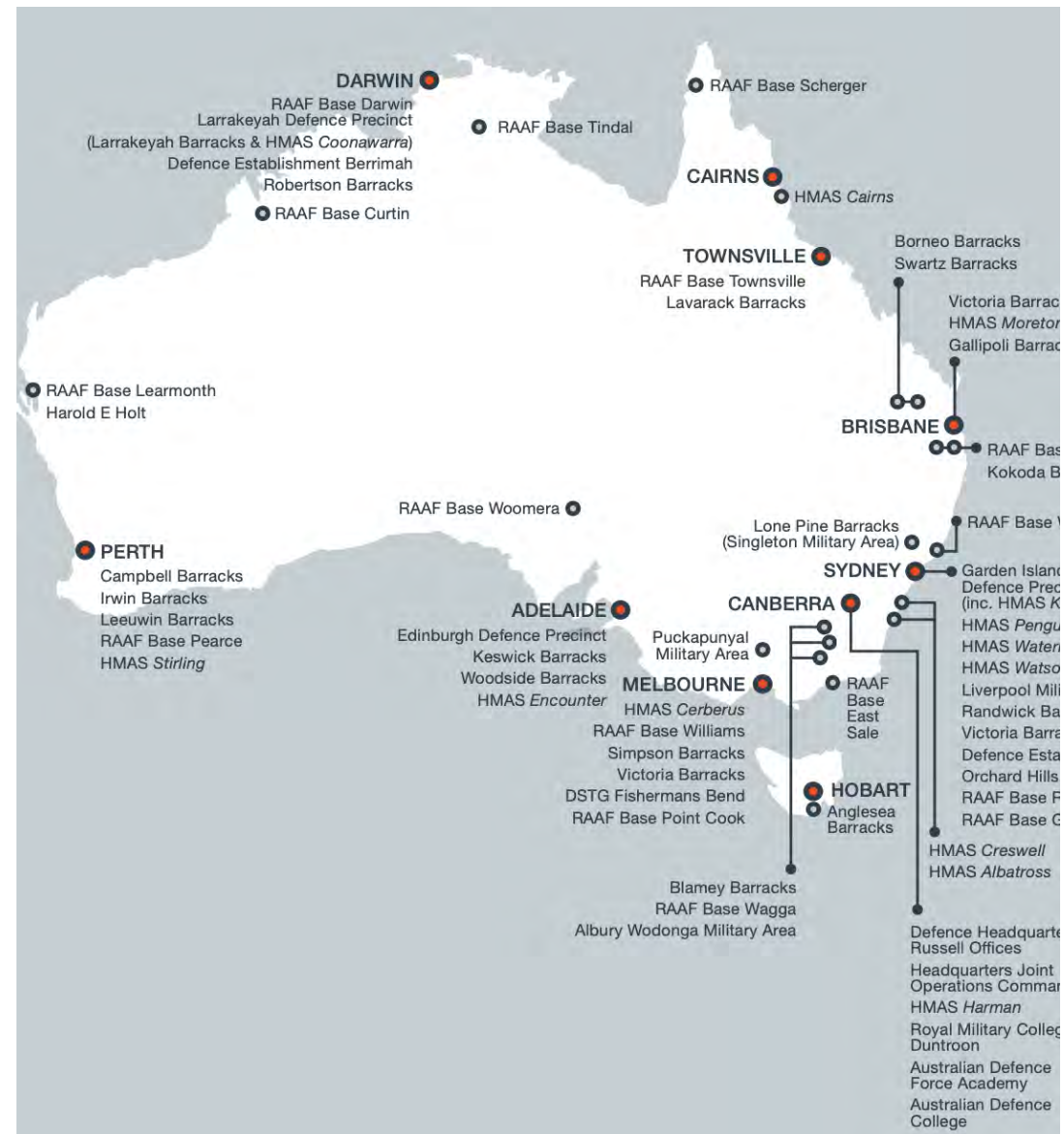


Operations

# Hazards in defence











Heat



# 20-year-old soldier dies after suspected heat exhaustion from Darwin training exercise

Defence Forces

Sat 27 Mar 2021







Dress state 4



Noise





Heavy metals (or  
outrage!)



# Risk communication

## Responding to Community Outrage:

Strategies for Effective  
Risk Communication



*by Peter M. Sandman, PhD*



A Publication of the  
American Industrial Hygiene Association

## 12 Questions to Ask in Risk Communication

1. Is it voluntary or coerced?
2. Is it natural or industrial?
3. Is it familiar or exotic?
4. Is it not memorable or memorable?
5. Is it not dreaded or dreaded?
6. Is it chronic or catastrophic?
7. Is it knowable or not knowable?
8. Is it controlled by me or by others?
9. Is it fair or unfair?
10. Is it morally irrelevant or morally relevant?
11. Can I trust you or not?
12. Is the process responsive or unresponsive?

## Risk communication

act IAW worst possible scenario

Engage and communicate with stakeholders (media, emergency services, community, legal)

When: frequent early statements with continued updates

How: hot line press, daily press

What: with compassion and empathy

## **Key principles**

accept/involve public as partner and stakeholder

carefully plan/evaluate content of risk communications

listen to specific concerns

be honest reliable and open

appreciate that intentional communication is a small part only of communication

ensure information is consistent between agencies

effective communication with media

acknowledge public concerns

focus on issues and process not people





## Silica



## Essentials of Risk communication

- It is important that risk communication includes detail of:
  - the exposure and assessed risk
  - the potential health concerns and relevant symptoms
  - the actions taken to remediate
  - future controls including any ongoing testing
  - actions they can undertake (including importantly, that they record the potential exposure)
  - a point of contact to raise concerns (and get assessment if necessary)

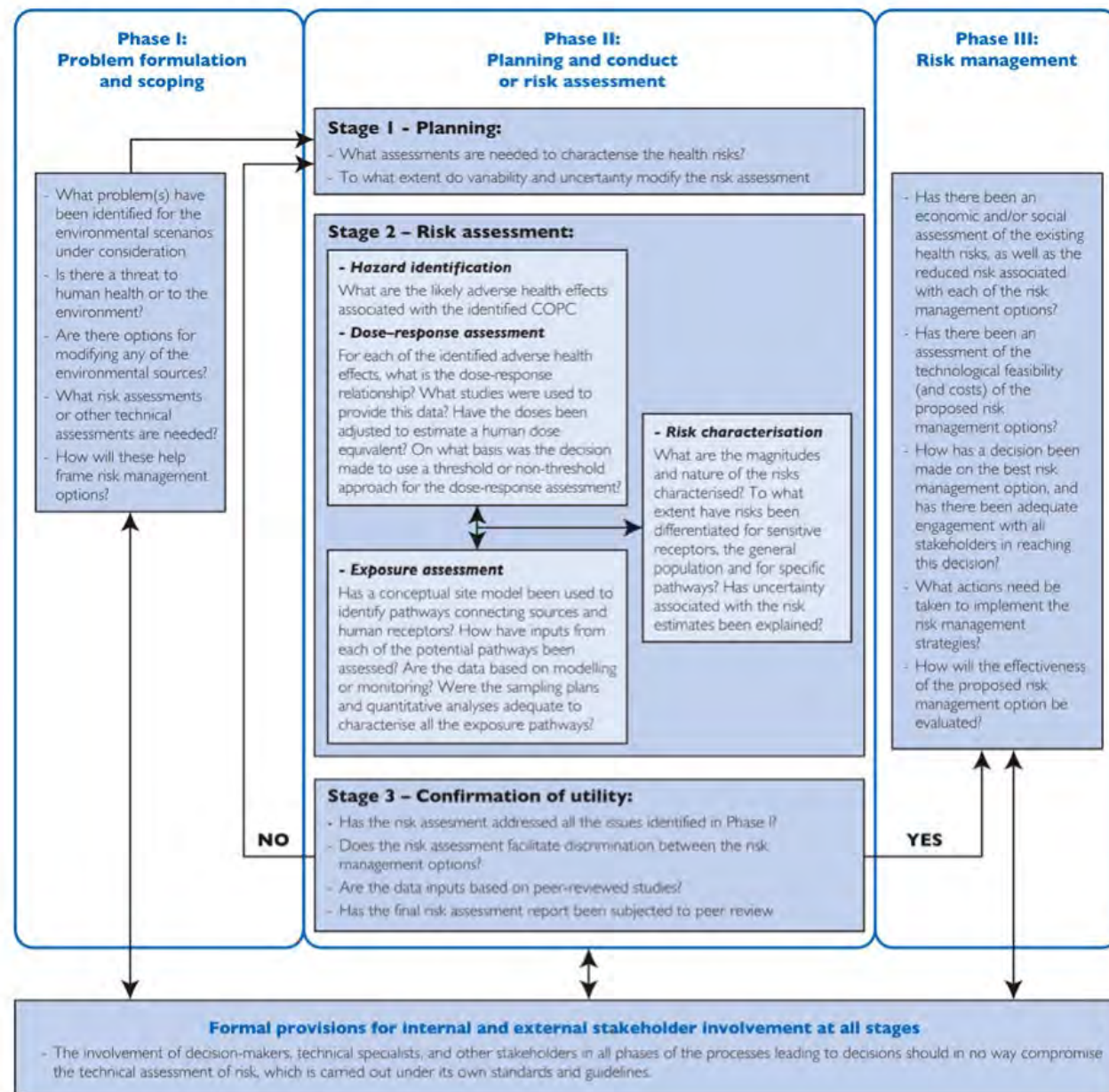




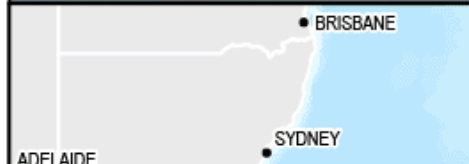
# ENVIRONMENTAL HEALTH RISK ASSESSMENT

Guidelines for assessing human health  
risks from environmental hazards

Figure 2: A revised outline of the interlinked processes of EHRA







# Jervis Bay Range Facility (ID 0021) and HMAS Creswell (ID 0020) PFAS Management and Monitoring Areas

LEGEND



Cancer cluster?





# Guidelines for Examining Unusual Patterns of Cancer and Environmental Concerns

## KEY POINTS

- CDC released Guidelines for Examining Unusual Patterns of Cancer and Environmental Concerns in 2022.
- The revised guidelines update the 2013 archived Morbidity and Mortality Weekly Report (MMWR) on investigating suspected cancer clusters.
- CDC/ATSDR revised the guidelines to provide the latest scientific tools and approaches to assess and respond to unusual patterns of cancer.



A cancer cluster is defined as a greater than expected number of the same or etiologically related cancer cases that occurs within a group of people in a geographic area over a defined period of time. Etiology refers to causes and risk factors associated with the development of disease

# Biological hazards





# EMERGING INFECTIOUS DISEASES®

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SUPPLEMENT ISSUE

## Articles

### Scrub Typhus Outbreak among Soldiers in Coastal Training Area, Australia, 2022

Rebecca Suhr , Samantha Belonogoff, Fiona McCallum, James Smith, and G. Dennis Shanks

Author affiliation: Australian Defence Force Malaria and Infectious Disease Institute, Enoggera, Queensland, Australia (R. Suhr, S. Belonogoff, F. McCallum, J. Smith, G.D. Shanks); Queensland Health, Brisbane, Queensland, Australia (S. Belonogoff, J. Smith)

[Cite This Article](#)

## Abstract

A scrub typhus outbreak occurred among 24 soldiers from 2 Australian Defence Force infantry units following separate training events conducted in the same coastal location in tropical North Queensland, Australia, in June 2022. Seven soldiers visited a hospital, 5 requiring admission. Outbreak recognition was hampered by the geographic dispersion of soldiers after the exercise and delayed case identification resulting from such factors as prolonged incubation, cross-reactive serologic responses to other pathogens, the nonspecific symptoms of scrub typhus, and the illness's nonnotifiable status in the state of Queensland. Our investigation focused on personal protective measures in a subanalysis of 41 soldiers, revealing an association between scrub typhus infection and the use of doxycycline chemoprophylaxis and permethrin uniform dipping.

Scrub typhus is a bacterial infection caused by *Orientia tsutsugamushi* of the *Rickettsia* family, transmitted to humans by the bite of an infected *Leptotrombidium* species chigger (larval trombiculid mite) ([1](#)). After an incubation period of 6–21 days, scrub typhus can cause such symptoms as fever, headache, rash, myalgia, gastrointestinal upset, lymphadenopathy, and occasionally a characteristic eschar or skin ulcer ([2](#)). Reports have estimated the median mortality rate of uncomplicated, treated scrub typhus to be 1.45%. However, if

# Scrub typhus



Patrol boats





LLB





# Emerging hazards Nuclear submarines







# Questions?

uring Exercise PREDATOR'S RUN 2024. IMAGE CREDIT: Captain Annie Richardson.