

# Operational Test and Evaluation, HMAS Canberra: Assessing the ADF's New Maritime Role 2 Enhanced Capability

Commander Neil Westphalen, RANR

## Introduction

The first of two Landing Helicopter Dock (LHD) ships commissioned into the Royal Australian Navy (RAN) as HMAS *Canberra* (L02) on 28 November 2014. Among their other attributes, the LHDs bring a Maritime Role 2 Enhanced (MR2E) seagoing health capability to the Australian Defence Force (ADF) for the first time, and with a significantly greater capacity, since the Landing Platform Amphibious (LPA) Fleet units HMA Ships *Kanimbla* and *Manoora* decommissioned in 2011.



HMAS *Canberra*, August 2015



HMAS *Manoora*, May 2008

However, although *Canberra's* commissioning formally transferred responsibility for the ship from her builders to the RAN, she still required an Initial Operational Capability (IOC) evaluation. The purpose of the evaluation was to assess the ADF's ability to undertake amphibious Humanitarian Aid / Disaster Relief (HA/DR) and Non-combatant Evacuation Operations (NEO), at a level of capability that was generally analogous to what had previously been provided by the LPAs. This entailed an escalating series of exercise-based and other assessments over 12 months, which culminated in an Operational Test and Evaluation (OT&E), conducted off Cowley Beach QLD, from 30 September to 05 October 2015.

*Canberra's* IOC evaluation is the prelude to a Full Operational Capability (FOC) evaluation, due to be conducted in October 2017. The purpose of the FOC evaluation will be to assess the ADF's ability to undertake a range of higher level combat-related amphibious operations.

## Purpose

This paper describes the methodology used to evaluate HMAS *Canberra's* MR2E capability, as part of her OT&E.

## Scope

This paper does not address the medical OT&E findings. Subject to approval, these may be obtained from the Directorate of Navy Health (DNH).

## Terminological Clarifications

Confusion regarding the interchangeable use of the terms 'MR2E' and 'Primary Casualty Receiving Facility' (PCRf) necessitated the need to specify how they are used. For this reason, the ADF's MR2E capability is the sum of the capabilities and limitations of:

- the 'PCRf's' provided by the LHDs and the Landing Ship Dock (LSD) HMAS *Choules* (L100), and



HMAS Choules, April 2012

- the health staff provided for the ship's PCRf by the RAN's Maritime Operational Health Unit (MOHU), based at HMAS Penguin in Sydney NSW.



Maritime Operational Health Unit (MOHU) building, September 2016 (LCDR Rob Bryant)

The ADF defines the levels or 'roles' of health care provided by its deployable health assets in accordance with Australian Defence Doctrine Publication 1.2 *Health Support for Operations*, which are summarised as follows:

**Role 1 (R1):** R1 health facilities manage minor sick and wounded from the point of injury/onset of illness, for immediate return to duty. They provide primary health care, triage, resuscitation and stabilisation, and preparation for evacuation.

**Role 2 (R2):** R2 health facilities are based on formed mission-dependent health teams, which can provide casualty triage, resuscitation and treatment, with more capability than R1 facilities.

Role 2 Light Manoeuvre (R2LM) health facilities provide a limited but highly mobile R2 capability ashore, which typically includes advanced triage, resuscitation and resuscitative surgery. R2LMs are generally only used by Army for the initial phases of deployments, where direct evacuation to a primary surgical facility is not feasible.

**Role 2 Enhanced (R2E) health facilities** provide higher capacity and/or capability secondary health care, which is typically based on scalable triage, resuscitation, primary surgery, intensive care, and inpatient services. R2E facilities also have their own health materiel and administration capability.

**Role 3 (R3):** R3 health facilities provide comprehensive specialist secondary health care, consistent with the theatre holding policy. The ADF's R3 health capability is not intended to have a seagoing role.

### The IOC Evaluation Process

**Canberra.** The IOC evaluation process began immediately after *Canberra* commissioned, with an escalating series of overlapping assessments as follows:

- A series of Departmental Management Audits (DMAs) covering the entire ship, which assessed her ability to safely leave the wharf. *Canberra's* medical DMA was conducted by Fleet Health Division (FHD), which is part of Fleet Headquarters (FHQ), located at HMAS *Kuttabul* in Sydney. FHD has a dedicated staff member to manage and conduct DMAs on all Fleet units approximately annually. The fact that this was the first DMA for a vastly expanded medical capability posed the main challenge: *Canberra's* medical DMA tool will take another couple of years to fully mature.
- The Mariner Skills Evaluation (MSE) assessed *Canberra's* ability to get to sea and back alongside safely under normal conditions. The medical MSE was conducted by Sea Training Group (STG) health staff, who assessed the ship's ability to deal with the more common seagoing medical emergencies, such as fires, floods, toxic gas hazards, and man overboard incidents.



WOMED William Bee and WOMT Anthony Booby from STG compare notes during a damage control exercise aboard NUSHIP *Canberra*, October 2014

- The Unit Readiness Evaluation (URE) assessed *Canberra's* ability to safely disembark and re-embark her landing force. The URE was conducted with some input from STG, but was predominantly managed by umpires from the Amphibious Task Group (ATG), based at FHQ. It consisted of an escalating series of exercises designed to prepare the ship for her Mission Readiness Evaluation.
- The Mission Readiness Evaluation (MRE) was the 'final exam' to certify *Canberra's* ability to undertake an 'LPA-like' level of capability (limited to HA/DR and NEO) over the following 12 months. The MRE was conducted by ATG personnel, during a series of exercises grouped together as Exercise SEA RAIDER in September 2015. Future MREs will be conducted approximately annually.

**MOHU.** The unit responsible for Navy's PCRF / MR2E capability for the LPAs was renamed MOHU in early 2014. MOHU's ability to act as Navy's people provider for its MR2E capability also underwent an escalating series of assessments as follows:

- A DMA also conducted by FHD, to assess MOHU's ability to provide the right number of the right people with the right skill sets and the right level of currency. Once again, the fact that this was also the first DMA for a medical 'people capability' rather than a ship posed the main challenge: the MOHU DMA tool will also take another couple of years to fully mature.
- As MOHU did not require a MSE, the next step was to conduct a series of simulated casualty exercises (SIMEXes), in the old theatre suite at HMAS *Penguin*. The SIMEXes used umpires from the RAN Medical School, and Navy reservists with civilian experience and expertise in medical simulation training.



MOHU SIMEX, HMAS *Penguin*, June 2015

- MOHU then joined *Canberra* for SEA RAIDER. The medical component of the MRE was assessed by the aforementioned Navy reservists, led by the Officer-In-Charge MOHU as the medical adviser to the ATG.

**OT&E.** The final step was to validate the DMA/MSE/URE/MRE process, by conducting an OT&E, which entailed a separate assessment of *Canberra's* 'LPA-like' capability, to be reported directly to Chief of Navy (CN) who would use it to inform his advice to Government. The OT&E was conducted at the end of SEA RAIDER by the RAN Test, Evaluation and Acceptance Authority (RANTEAA). I provided medical support to RANTEAA in my role as Fleet Medical Officer (FMO).

### RANTEAA OT&E – Medical Aspects

**What to Assess.** Specific direction as to what the PCRF and MOHU are meant to provide is limited. Version 5.2 of the Australian Amphibious Concept (AAC) document dated March 2010 anticipated that:

- R1 support would be provided for the landing force by a Combat Health Platoon (CHP).
- R1 plus support for the landing force would entail providing the CHP with additional health elements.
- R2LM would include a short duration damage control surgery capability ashore.
- R2E was to be provided by the LHD PCRF, and would be principally staffed by Navy Health Service personnel.

Although the AAC refers to forward aeromedical evacuation (AME) from ashore back to the LHD, and to strategic AME from the Area of Operations back to Australia, it has no guidance regarding the tactical AME of post-surgical patients from the LHD to the strategic AME departure airhead. Furthermore, the AAC has no guidance regarding the health support requirements for up to 1000 personnel aboard the Fleet units escorting the LHDs, which has important implications should an escort be damaged or sunk during combat operations.

In view of the lack of any other references to base the level of MR2E capability to be assessed, it was decided that the medical OT&E would be baselined on the LHD PCRF as built. These include:

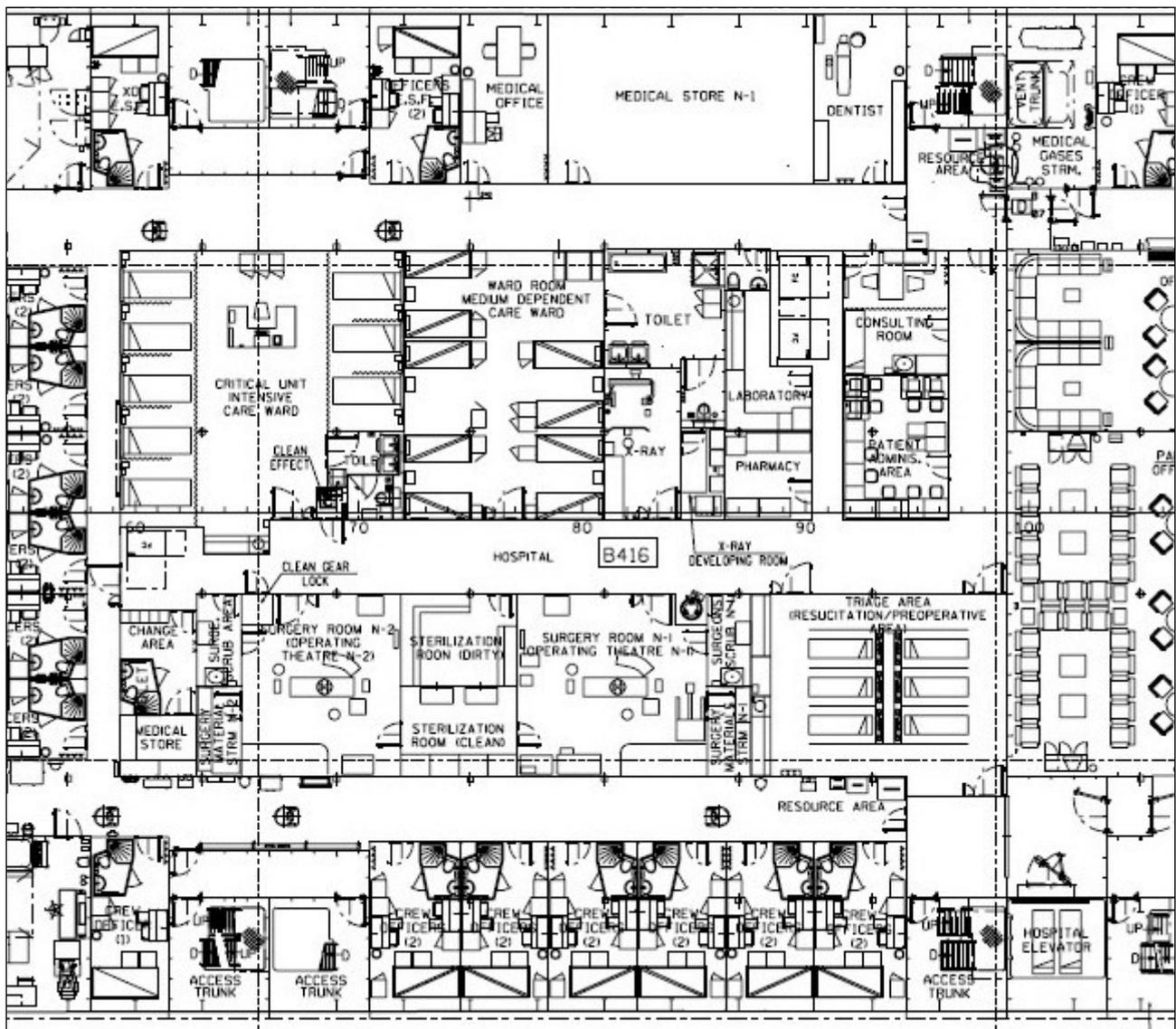
- Resuscitation / treatment room with six patient trolleys.
- Two operating theatres, scrub rooms and CSSD.

- Eight-bed High Dependency Unit (HDU).
- 20-bed Medium Dependency Unit (MDU).
- 28-bed Low Dependency Unit (LDU).
- Portable and fixed x-ray imaging.
- Pathology.
- Pharmacy.
- Medical Officer consultation room, patient admin area, dental, and designated PCRf office space.
- 45-day Class 8 medical store capacity whilst at sea. The embarked landing force requires additional Class 8 stores for an additional ten days if they go ashore. Deployments exceeding these timeframes require resupply.

It was also decided that assessing this baseline would be based on the MR2E's ability to undertake the following list of functions and roles:

**Operational Health Support**, including:

- The ship's ability to implement and monitor the relevant Deployed Joint Force Headquarters (JTFHQ) Health Support Order (in this case, for SEA RAIDER).
- Ensuring MOHU and ship's company health staff are supported by the CHP whilst embarked, and
- Vice versa when the CHP is disembarked.



Plan, LHD PCRf

**Casualty Evacuation**, in particular:

- Movement of casualties from ashore to the ship (either by helicopter or landing craft), and
- from the ship to a suitable airfield ashore, pending strategic AME home.

**Humanitarian Aid / Disaster Relief.** In accordance with the interim requirement for the ship to provide a 'LPA-like' level of capability (limited to HA/DR and NEO), it was assumed the MR2E will normally only be required to provide:

- Health support for disembarked personnel who are engaged in HA/DR operations ashore, and
- Health care for embarked civilian evacuees.

**Military Medicine Capabilities.** This referred to ensuring that embarked ADF aircrew and divers (whether Navy clearance divers or Army special forces personnel) were medically suitable to undertake their respective duties, with particular reference to:

- Ensuring their Specialist Employment Stream Annual Health Assessment (SESAHA) currency was being maintained by garrison health staff;
- Ensuring that their Specialist Employment Classification (SPEC) currency was being maintained by garrison health staff;
- Providing on-board aviation and diving medicine-specific health care as required, and
- Managing embarked Temporarily Medically Unfit (TMU) aircrew and divers.

**Medical Suitability for:**

**Deployment.** This referred to ensuring that all ship's company and embarked force personnel are medically suitable for amphibious operations, with particular reference to their:

- Periodic Health Assessment (PHA) currency, and
- Medical Employment Classification (MEC) currency.

**Employment.** This referred to ensuring that the ATG and subordinate Commands were kept informed of:

- Personnel requiring admission to the PCRFB (and if necessary, evacuation);
- Excused Duty (ED) personnel who are unfit for work but do not require admission, and
- Restricted Duty personnel who can work, subject to employment restrictions.

**Occupational and Environmental Health:**

- **Whole-of-ship.** This referred to ensuring that the ship occupational and environmental *health* (as opposed to *safety*) hazards are adequately managed, and
- **PCRFB.** This referred to summarising the health and safety hazards to patients and staff within the PCRFB.

**Health Promotion.** This referred to the ability to enhance ATG capability, by ensuring that personnel are provided with relevant health advice and information that they can use to improve and/or maintain their health whilst deployed.

**Treatment Services.** This referred to ensuring that the MR2E could provide all the treatment services that it is required to provide, not only the embarked force, but also ship's company, escorting Fleet units, and embarked civilian evacuees. These include:

- Sick Parade / primary health care;
- Shipboard medical emergencies;
- ATG casualty reception / triage (whether from ashore or afloat);
- Theatre services, with particular reference to:
  - Surgery (general and orthopaedic);
  - Anaesthetics;
  - Central Sterile Supply Department (CSSD);
- HDU;
- MDU;
- LDU;
- Imaging;
- Pathology;
- Pharmacy;
- Dental;
- Medical Waste;
- Medical Linen;
- Medical equipment support;
- Medical stores.

**How to assess.** These 29 items were assessed using the following list of Fundamental Inputs to Capability (FiCs) per the *Defence Capability Manual*:

- **Personnel:** Did the MR2E capability have the right numbers of the right people with the right

skills sets, who had the right level of currency to undertake each of these functions?

- **Organisation:** Did the MR2E capability have the right organisational structure?
- **Collective Training:** Have each of the MR2E sub-departments undergone the relevant training, and can they all work together as a single team?
- **Facilities:** Is the PCRf and all the other medical spaces on board suitable?
- **Supplies:** Is the MR2E capability receiving / providing the medical and other stores required?
- **Major Systems:** Does the MR2E capability have all the relevant medical IT and other systems required?
- **Support:** Is the MR2E capability receiving the relevant support from the rest of the ship and the embarked force, and vice versa?
- **Command and Management:** Does the MR2E capability have the relevant SOPs and management procedures in place?

### Outcome

The medical OT&E assessment tool therefore comprised a list of eight FiCs for each of the preceding 29 items, which were in turn based on eight health service functions and roles. The list was followed by a comments section, a list of issues considered relevant to CN, whether the item had been achieved with caveats, and – in particular – whether the item had been achieved in a sustainable manner.

The OT&E therefore entailed using the assessment tool to interview all the relevant personnel from MOHU, *Canberra* ship's company health staff, the CHP, and other stakeholders. In addition, two casualty exercises were observed, one from the Joint Operations Room and other from the PCRf.



Casualty exercise, HMAS *Canberra* PCRf, October 2015  
(Author)

Particular attention was made in the report to limit any 'can do' tendencies by MOHU and ship's company health staff, in order to avoid 'overselling' the current MR2E capability: in other words, not promising a level of capability that cannot in fact be delivered when called upon.

Ten days after the end of the OT&E, RANTEAA had a 51-page report for CN, which indicated that as of October 2015, *Canberra* could provide MR2 with limited surgery, but not MR2E. Of the 29 items, the ship achieved 13, did not achieve 15, plus one not fit for service. The medical OT&E report (and that provided by OIC MOHU as the ATG lead assessor) also formed the basis of an action plan to address the shortfalls, hopefully in time for the LHD FOC evaluation in October 2017.

### Conclusions

Participation in the MR2E OT&E process validated the relevance and usefulness of the health functions and roles to guide health service management decision-making.

Secondly, it also validated the use of the FiCs, as used by the rest of Defence, to assess each of these functions and roles, with specific reference to the health setting.

Thirdly, combining the list of functions and roles with the list of FiCs facilitated the production of a report generally independently of the DMA/MSE/URE/MRE process, which was systematic, reproducible, comprehensive enough to be useful by health SMEs, yet short enough to be readable by senior-non-health officers for whom health is not their first priority.

Finally, it is considered that the methodology used for this OT&E has potential applicability beyond the MR2E, not only to assess other deployable ADF health assets, but also 'garrison' health services.

### Acknowledgements

The author gratefully acknowledges the Permanent and Reserve personnel at FHD, MOHU, *Canberra*, STG, ATG, RANTEAA and the RAN Medical School.

### Disclaimer

The views expressed in this presentation are those of the author, and do not represent those of Navy, Joint Health Command, or the ADF.

Commander Neil Westphalen graduated from the Adelaide University School of Medicine in 1985, and joined the RAN in 1987. He is a RAN Staff Course graduate, and a Fellow of the Australasian Faculty

of Occupational and Environmental Medicine, the Australasian College of Aerospace Medicine, and the Royal Australian College of General Practitioners. He also has a Diploma of Aviation Medicine and a Master of Public Health.

His seagoing service includes HMA Ships Swan, Stalwart, Success, Sydney, Perth and Choules. Deployments include Operations DAMASK VII, RIMPAC 96, TANAGER, RELEX II, GEMSBOK, TALISMAN SABRE 07, RENDERSAFE 14 and KAKADU 16. His service ashore includes clinical roles at Cerberus, Penguin, Kuttabul, Albatross

and Stirling, and staff positions at Headquarters Australian Theatre, Joint Health Command, Director Navy Occupational and Environmental Health, Director of Navy Health, and Fleet Medical Officer. Commander Westphalen transferred to the Active Reserve in July 2016.

---

*Corresponding author: Neil Westphalen*

*neil.westphalen@bigpond.com*

*Authors: N Westphalen<sup>1,2</sup>*

*Author Affiliations:*

*1 Royal Australian Navy Reserve*

*2 Navy Health Service - C/O Director Navy Health*