AND...
WINSTON WAS HIS NAME-5

- HeRAMS for beginners
- Prepared in Paradise
- AUSMOGs in the UK
- The WHO EMT's
THANK YOU TO OUR CONTENT CONTRIBUTORS

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Well, when we said “we need to communicate more about what we do”, we didn’t anticipate 40 pages… Looks like we had a lot to talk about! And I am told the next edition is already filling up quickly.

We are very proud to share with you this “Quarterly” edition. As only 20 to 25 of a 700 people community get a chance to deploy every year, an ongoing questioning for the NCCTRC has been “how do we engage more with our AUSMAT community”? The Quarterly is a first attempt to maintain a connection throughout the year.

You would also have noticed that we post “expressions of interests” for AUSMATees who might want to come and work for us for a few days, weeks or months on a variety of projects. More EOIs will come in the future, as we open a new Medical Director position, whose responsibility will include the creation and follow-up of working groups on a variety of topics, from the improvement of our existing capability to the review or creation of clinical guidelines.

In our next edition, we’ll tell you more about the achievements of 2015-2016, and the plans for 2016-2017. In the meantime, I’d like to use this opportunity to thank Dr Nicholas Coatsworth for his outstanding contribution to the NCCTRC. Under his leadership, we have renewed our 4-year funding agreement, created a new strategic plan for 2015-2019, and expanded our capability while positioning the NCCTRC a global benchmark for the WHO “Emergency Medical Teams” model and successfully deploying to Vanuatu and Fiji. Thanks Nick!

And now… Enjoy the read!

Hichem Demortier
Acting Executive Director

PS: being new to the AUSMAT world, I hope you will forgive me if I add a small bio below, as a way of introduction...


After several years in the private sector, I joined the French Development Agency as Program Coordinator and Acting Director in the Comoros Islands from 2000 to 2002, before moving to the headquarters, with short term missions in Mali, Chad, Laos and Madagascar.

In 2004, it was time to move from the development world. I joined the Emergency desk of Médecins Sans Frontières, and undertook seven field missions in natural disasters and conflict areas between 2004 and 2006: Kenya, Sri Lanka, Nigeria, DRC, Jordan (2), and Lebanon. Since 2011, I have also been a board member of MSF Australia, and the Australian representative on numerous MSF international platforms. I just resigned in April 2016 to spend more time with the family.

After holding several leadership positions in large not-profit organisations in France and Australia, I joined the NCCTRC in January 2015.

As the recent Fulbright Scholar for non-profit leadership, I will go and spend 3 months at the Harvard Humanitarian Initiative (HHI) to establish an academic partnership between the NCCTRC and HHI.

Surprisingly, I love cheese, food in general (with a soft spot for Thai and modern Asian food), wine and soccer. You can bribe me anytime by inviting me at Rice Paper Scissors in Melbourne CBD.
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Welcome to the first Edition of the AUSMAT Quarterly!

I would like to thank the everyone who has contributed to this edition and in particular Juno for working with a crazy deadline to get this first Quarterly out.

The concept of a regular NCCTRC newsletter for AUSMAT personnel has been around for some time. The centre has had a couple of false starts in getting a circulation up and running – often derailed by deployments, training or the many other important activities we find ourselves engaged in.

So why will this one be any different?

Many of you know the story of how the NCCTRC came into existence. I joined the centre in 2009, when the Disaster team consisted of about three people (me included). We were highly ambitious, keen to implement many projects and challenge the disaster response landscape – the consequence was a demanding portfolio, with the same number of staff – little sleep, lots of travel but with fantastic engagement from across Australia. I have seen the AUSMAT concept mature and become a highly flexible robust model capable of turning on a pin head, supported by a dedicated keen workforce of health professionals. There have been so many deployments since 2009, all different all challenging in their own way and with each one significant growth and learning that supports a model held up by many in our global community.

So, back to the newsletter. The disaster team has grown, we are no longer the small team of three, we have now close to 10 personnel working on Disaster response with the same enthusiasm and desire to build capability, engagement and capacity to respond in our region. We have committed to getting out a fresh edition quarterly and are super keen to include you as readers in the content. We want to share with you what’s changing, who’s deployed, what they did, how we are strengthening relationships in our region, why that’s important? and what you need to do to stay engaged with AUSMAT. We will seek contributions from you as you understand what it means to deploy and what it is to deliver quality health care in a disaster zone. You have valuable information to share and assist in challenging fellow AUSMAT members to remember their training and update their knowledge in this space. We plan to support this fabulous read with a dedicated section on our website for the latest information and we encourage you to write to us with suggestions.

Happy Reading.

Abigail Trewin
A/Director of Disaster and Preparedness
“By evening the Alpha teams tasking had been changed by the MOH, and the team adapted to the new requirements, a mobile primary health team.”
Severe Tropical Cyclone Winston made landfall 19th of February. The strongest cyclone to make landfall in the Southern Hemisphere with 230km hour winds and gusts up to 245km it caused widespread devastation resulting in 44 deaths, 55,000 people living in evacuation shelters and effecting 340,000 people, approximately 40% of the Fijian population.

AUSASSIST plan was activated Saturday 20th of February.

On Monday 22nd a small team departed from Darwin, Sydney and Melbourne with an EMA Liaison Officer from Canberra, meeting in Brisbane in the early hours of the 23rd to be transported by C17 to Suva along with tonnes of Australian humanitarian stores.

The initial tasking was to provide aeromedical evacuation capability in the aftermath of Cyclone Winston, the team comprised of two doctors, 2 nurses and 2 paramedics.

Skills of the team deployed:
- Emergency physician/retrievalist,
- Anaesthetist/retrievalist,
- Trauma/emergency nurse consultant,
- Emergency/midwife/flight nurse,
- Intensive Care flight paramedic,
- Intensive Care paramedic – Team Lead

By evening of the 23rd the team landed in Suva, were briefed at the High Commission and attended the first health cluster and meetings with Ministry of Health (MOH) officials.

The extent of destruction Cyclone Winston left behind made it difficult for the Fiji MOH to determine a start point for the AUSMAT team. They had initiated a health needs assessment prior to the AUSMAT team’s arrival but the evaluation would not be available for a number of days.

With the devastation so widespread, the challenge? Where to start? Three of the four divisions of the main island had experienced significant damage and loss.

The cyclone trajectory travelled through the Northern Lau and Lomaiviti group and between Vitu Levu and Vanua Levu.

» Colonial War Memorial Hospital (CWM) Suva’s central hospital had sent surgical teams to Koro Island (ground zero), and had established a field hospital on the island. Of note, is the addition of Fijian Surgeons trained on AusMAT Surgical course, which according to the CWM superintendent provided expertise that had made the response possible.

» In the East, Fijian Health teams were on boats headed to other outer islands expecting to arrive within the following 24hrs.

» In the West, Latoka hospital was undamaged and fully functional.

» The North West had been hit by the full force of the cyclone but telecommunications had been intermittent, and access was prohibiting assessment of the destruction.

By evening the Alpha teams tasking had been changed by the MOH, and the team adapted to the new requirements, a mobile primary health team embedded within a Fijian lead response in the division of Ra based out of Rakiraki hospital.

The change in tasking required a change in equipment. The aeromedical equipment and consumables brought in were no longer suitable for the mission. Adaption included additional food purchases the evening prior to departure to allow for self sustainability for five days. 220lt of bottled drinking water (enough for 7lt a day per team member for five days). In addition, the team negotiated from arriving donations, two Unicef basic Inter-agency Emergency Health Kits (IEHK) which was collected on the drive to Rakiraki. The team travelled to Rakiraki arriving late on the 24th of February to meet...
February the local teams had
By Thursday the 25th of
five, only 46 were accessible.
path of the cyclone and by day
118 settlements had been in the
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inspectors, travelling to each

They had two convoy teams of health personnel and health inspectors, travelling to each village, following food and WASH Kit distribution. Across the RA division 93 villages and 118 settlements had been in the path of the cyclone and by day five, only 46 were accessible. By Thursday the 25th of February the local teams had reached a total of twenty-six communities. They desperately needed capacity to get out to the population and wanted more health personnel to ensure all those in the path of the cyclone could be reached, evaluated and provided immediate care.

The addition of the AUSMAT team along with two vehicles (4WD's) and communications equipment increased the capability of Rakiraki health teams to four.

AUSMAT Alpha split into two teams, with a minimum of two AUSMAT members in each vehicle (male/female mix) joined by Fijian health personnel. The Team Leader remained in the Sub-divisional Health Operations Centre, as a safety and communication point for AUSMAT teams in the field.

Each Aussie team consisted of the following:

- Local Driver
- AUSMAT doctor,
- AUSMAT nurse,
- AUSMAT paramedic (in one vehicle)
- Fijian Nurse
- Fijian health inspector.

Reaching communities in the path of the cyclone required extensive travel, up to 300 km some days, limiting the number of villages seen by each team to an average of seven, and approximately 50 patients daily, with the evacuation centres the predominant focus.

The teams provided treatment of traumatic injury sustained from the cyclone, early identification of outbreak, need assessment and evaluation of remaining infrastructure and services. Patients requiring further treatment were ‘phoned in’ via satellite phone to the Rakiraki operations centre and the single ambulance would be sent out to collect identified patients for return to the hospital and if necessary referral out to Latoka Divisional Hospital.

Briefings and daily tasking for all teams were delivered by the Sub-divisional Medical Officer and Chief Health Inspector. Clinical consumables were sourced from one of the IEHK’s brought by the team, the second was provided to the hospital for distribution from their store. Pharmacy items were supplied by the Rakiraki hospital and complied with the Fijian clinical guidelines.

Each Australian team had a satellite phone, computer, personal Epirb ‘Spot Tracker’, two radios for communication (should team members become separated) and local phones. They carried their Grab bag, rations, and packed sleeping equipment in case of breakdown or unexpected delays.

Days were long, 0600 start, with 2000 finish, returning to dorm-style accommodation with intermittent power 30 km from the hospital.

As the team reached each evacuation shelter (often a remaining facility) they discovered more ‘evacuation’ shelters, as the destruction of homes reached up to 100% in Ra communities. As the trauma cases were slowly referred to Rakiraki hospital, management of public health issues began to take precedence and concern grew for the communities in the interior of Ra that remained inaccessible.
On the 27th of February the Fijian Government requested further assistance for additional AUSMAT. The model, identical to the Rakiraki capability - personnel to embed with Fijian mobile medical teams. In addition, a request for three AusMAT members to provide support to the Health Emergency Operations Centres, Suva and Tamavua.

Logistical travel challenges created a staggered response of Team Bravo. Half the team arrived on the 28th the remainder late on the 29th of February with equipment and consumables from Darwin by C17. The first seven members of Bravo, were immediately split on arrival, with Nadine Tipping accepting the re-tasking to provide the critical communications support to team Alpha that had been removed with the Task Force Leader (TFL) return to Suva. She headed north three hours to Rakiraki.

The remaining six members of Team Bravo spent the 29th at the Australian High Commission preparing preliminary plans for the arrival of the remainder of the team and potential taskings to ensure safety, communications, clinical guidelines and reporting could be maintained in multiple locations as the MOH had not finalised locations or taskings.

For those who are AUSMAT trained it was identical to ‘sim’ day... only of course very real.

The first six members of Bravo had essential experience that assisted in this important planning.

Three had participated in a Tour de Timor, the Timor Leste mountain bike race set over five stages requiring similar safety and communications strategies.

A clinical member with six months experience providing primary health outreach in Afghanistan.

These combined experiences formed the blueprint of how we would execute the mission, and made the request to change and adjust plans to accommodate the mission far simpler for the team to follow.

Concurrently the AUSMAT Task Force leader was requested to complete a Needs Assessment on Koro Island with NZMAT. It had now been over a week and little further was known about the ongoing health need on Koro and if there was a requirement for AUSMAT or NZMAT support.

Travel by the Australian Defence Forces MH90’s is a unique privilege of responding as an AUSMAT. The MH90’s are spectacular aircraft, air-conditioned with a large capacity, fast and smooth to travel in. The Australian military brought in an initial three for the response and they along with the NZ military MH90’s became the lifeline for the Eastern Islands.

Despite the pre flight briefing that stresses the “you will die” and “there are many ways to die” it was a safe arrival on Koro Island. Koro experienced the full force of Cyclone Winston one hundred percent loss of all homes, trees, vegetation and services. The cyclone had created an apocalyptic wasteland with four-meter-high storm surges, people had run for their lives to take shelter in the primary school at the top of the hill. It was here the first surgeries also took place until temporary shelters were erected as a basic hospital.

Women sheltering at the temporary evacuation shelter described losing close family members at the peak of the storm with collapsing houses and flying debris and a young girl who’s first words to the team were of the little sister who had died in front of her.

Old photos of Koro show it to be a jewel in the pacific, stunning landscape and little villages dotted around the island. Now, it was a pile of rubble with UNICEF tents erected close to the medical officer’s home, surgery being performed by a Fijian medical officer in a small back room of temporary hospital and three nurses working hard to support the community they lived in.

They had saved countless lives in their early response, by this time they had performed over 40 operations in their makeshift facility. While trauma cases declined, the fear of outbreak was a reality. Sanitation services had been disrupted, while clean water was still available and gravity fed from a water source in the mountains many of the smaller communities had not been fully reached and the medical team were reliant on people making their own way to the medical facility on foot or in one of the few remaining vehicles. NZMAT committed on return to provide a small team to support an outreach program on Koro and provide a welcome break to the staff who had worked tirelessly since Winston hit eight days prior.

The full complement of Team Bravo arrived as the MH90 returned to Suva, along with the additional cache. They spent the first few hours of arrival at the Suva ADF hanger unpacking and sorting consumables and pharmaceuticals into workable allocations. Prior to Koro Island taskings had been finalised, departure for three members to Ovalau Island was scheduled for first thing in the morning and the remainder were set to travel to Koro Division-Tailevu after midday.

“Ovalau Team member skills included remote area, indigenous health care, primary, public health expertise and aeromedical operations.”

THE QUARTERLY NCCTRC JOURNAL ISSUE 01
On the first of March three AUSMAT team members were flown via MH90 to Levuka, Ovalau Island a UNESCO World Heritage town on the East coast of Fiji in the Lomaiviti province. Approximate population of 8500 people (Fijian census 2015).

Ovalau Team member skills included, remote area, indigenous health care, primary, public health expertise and aeromedical operations.

The team was to embed in the outreach program run by Sub Divisional Officer Dr Sai, (whom had arrived at his new posting the day prior to the cyclone). Tasked to support Fijian lead teams in the health response by travelling to every village on the island and providing a primary health care clinic with the aim to treat traumatic injury from the cyclone, early infected wounds, and all other chronic presentations that required support and referral. Their work included providing psychological first aid offering the villages an opportunity to tell their survival stories and trauma they had experienced.

The Ovalau team had to adapt to a slightly differently approach to the other AUSMAT outreach teams. The combination of AUSMAT personnel and local nursing staff could not be realised as the assigned local nurse had become unwell. This left the three Australian health providers with a Fijian health inspector and HK logistics team member as the combined team.

Team Ovalau enjoyed a friendly, open and mutually respected relationship with the SDMO and his team. The inclusion of an embedded local health inspector in the team was imperative in the team’s success. The inspector was able to introduce the team to senior village members and then act as a liaison as well as serve as an interpreter when required and assist in sensitive clinical conversation.

Dr Sai had already established a comprehensive cyclone response plan prior to the team’s arrival which allowed ease of tasking and a sharing of the load between Team Ovalau and his own team. His plan enabled the team to make its first village visit in the afternoon of the day of arrival on Ovalau which then set the positive and collaborative tone for the entirety of the mission.

The team received a number of visitors to ensure their welfare, from AUSMAT log - travelling via early morning ferry to the team to provide essential safety kit (life jackets, team emergency packs), to the DFAT Liaison Officer and AUSMAT Task Force Leader.

The Fijian Health Minister, without the knowledge of the team travelled to Ovalau and spent the morning asking residents of the villages visited by AUSMAT if they were satisfied with the health care provided. On reassurances that the team were providing appropriate care he joined the AUSMAT in a village for a photo and validation of their work.

The other difference for this team was the multiple methods they used to get to outlying areas of the Lomaiviti group, they travelled by boat, helicopter and road to achieve one hundred percent coverage of their division. The team spent nine days working on the island including the outer archipelago and treated 477 patients, they returned to Suva via ferry and road, prior to their departure home to Australia.

The remainder of team Bravo departed Suva the afternoon of the 1st of May. The Mission was to provide support to an active outreach program in Division of Korovo, in the Tailevu Province.

Korovo is situation in the Central division near the coast and had experienced the edges of the cyclone with significant destruction of houses and vegetation. The Tailevu hospital had two mobile teams in operations prior to the team’s arrival and had covered one third of the areas requiring assessment and treatment. There had been prior to the cyclone reported outbreaks of Typhoid in this area and there was concern that this could again occur due to the disruption and damage to critical infrastructure.
The Tailevu Hospital has six doctors, 34 nursing staff, pharmacy, and x-ray capability. It has a maternity suite, with limited inpatient facilities. The Sub Divisional Medical officer Dr III welcomed the team and in particular the addition of Philippa Binns an AUSMAT Doctor previously experienced in Epidemiological reporting with the WHO.

Pip spent her time assisting Dr III with strengthening a recording and reporting structure, entering the high stack of recorded patient data into the system and providing training to ensure that it could be managed after the team departed. An EOC was established to support Dr III plan outreach and ensure all communities were being visited. This became imperative when a confirmed Typhoid outbreak began in local village.

The critical addition Pip was able to provide was feedback into the main EOC’s that had AUSMAT members present to ensure the recording met the Fijian objectives under the guidance of the Fijian chief epidemiologist.

Pip continued this support to three other SDMO’s and the AUSMAT team, by assisting teams in the field to meet the recording objectives and support the Fijian early warning system and the Health Cluster. This was a new initiative for AusMAT and demonstrated its value in supporting the tactical approach but the strategic view at a ministry of health level.

The medical members of Team Bravo provided outreach in combined Fijian lead health teams. They spent five days supporting the response treating 421 patients before being re-tasked to Latoka the Ba region and back to Rakiraki as access to the interior had opened up. AusMAT was now placed in six locations across Fiji. Travel to new locations was not a quick process, the roads and well maintained were littered with power lines, livestock to contend with and are dangerous to navigate post cyclone. To travel from Korovou to Latoka takes close to five hours, Rakiraki three via the Kings road. Two teams departed Korovo to travel to the west coast of Fiji.

To establish relationships quickly and form professional teams is not simple. There are cultural differences, confusion as to your purpose, limited knowledge of each medical professional’s capability and yet within hours you need to work together to treat some days up to one hundred patients.

Team Rakiraki Bravo, did similar work to the Alpha team and were welcomed back by SDMO Dr Mere with great enthusiasm. The difference with this deployment was accessing the outer coastal islands and difficult interiors which had been inaccessible during the Alpha deployment.

Team Bravo Rakiraki’s four AusMAT members, two nurses, ED Doctor and AUSMAT Logistician and their Fijian colleagues accessed their patients by walking up to three kilometers inland where cars could not traverse, travelling by boat along the coast and driving hundreds of kilometers a day. They like Ovalau assisted in achieving 100% coverage of Ra, meaning every village, town and settlement was provided access to a medical team. Considering the extensive divisional area this was quite an achievement, a total of 509 patients were treated by the combined AusMAT team in this division over the three weeks.

While Pip and Tristen worked in the Latoka EOC alongside Hugh who had flown to Latoka Day one of Bravo 2’s arrival in Fiji, three others headed out daily into Ba to work from village to village with their Fijian counterparts providing primary care to North West region of Vitu Levu.

The total patient numbers treated by both Alpha and Bravo totalled 1768 over a period of three weeks.

The team members assigned to the three EOC’s provided direct support to the Ministry of Health throughout the two-week deployment. Their role was strategic including prior to departure providing a formal review to the Ministry of Health with opportunities for future responses presented to the full executive and the Minister of Health.

The AusMAT mission was extensive, demanding and the first of its kind in this format. The maturity of members, and the experience of those who were deployed made the mission agile and able to meet the needs of the Fijian Ministry of health. It has demonstrated an excellent model for future deployments into the pacific.

“...accessed their patients by **walking up to three kilometres inland where cars could not traverse, travelling by boat along the coast and driving hundreds of kilometres a day.**”
Epidemiology in the field
- A first for AusMAT

By Dr Philippa Binns

While the outreach teams got down and dirty (literally, crossing rivers and sitting on their woven mats under trees delivering clinical services to the affected communities in the hot humid conditions), there was also work to be done supporting Fijian Health Emergency Operation Centre (EOC) staff with their tasks in the office.

The Divisional and Sub-Divisional Medical Officers and their EOC staff carried a huge responsibility keeping track of mobile outreach team movements, activities and responding to local needs (e.g. evacuation centre safety, health facility rehabilitation, hygiene pack distribution, potential disease outbreaks), as well as the Ministry of Health requirements.

Although much less sexy and not as interesting for photo opportunities, it was a privilege to work alongside the incredibly skilled leaders in the Tailevu Sub-Division and Western Division, and provide assistance to manage the flow of information to...
support the outreach teams, surveillance activities and reporting requests from the Ministry of Health. This was a first for AusMAT in providing public health and disease surveillance support in this way, all the while endeavouring to ensure integration with the host country and World Health Organisation systems.

The data collected and submitted by the local clinicians and our teams daily was essential in assisting the EOC staff make informed decisions about potential public health threats in the villages, settlements and evacuation centres. Suspected typhoid and diarrhoeal illness triggered water and sanitation interventions to prevent outbreaks. Suspected dengue and Zika illnesses prompted targeted mosquito control activities. This was a true demonstration of “data for action” that provided an opportunity for the AusMAT clinicians to witness how important their own contribution towards data collection and submission was in the big picture of the Fijian emergency response.
HeRAMS (Health Resources Availability Mapping System) has been introduced by the Global Health Cluster to address these challenges. It is a standardised approach supported by a software-based platform. By integrating into Health Cluster activities, partner organisations are involved in the data collection which can help improve co-ordination, efficiency and helps build partnerships.

Information on four major areas at the “point of delivery” (e.g. public, community, private, mobile and/or temporary health services) can be monitored (see table below) using a standardised structure and reporting mechanism. This enables evidence based decision making, rapid and equitable response, timely identification of needs and gaps, efficient planning and implantation and advocacy for resource mobilisation.

Not all countries use HeRAMS, but it is a system that does not require extensive training and is relatively simple and rapid to implement so we may see it in use more often in the future. The Fiji Health Cluster adopted it post Tropical Cyclone Winston and was using it in their reporting by mid-March. By our very nature as a health service provider, deployed AUSMAT’s can assist the host nation counterparts who have adopted HeRAMS by providing our information to assist them with their planning and response. In turn, it will assist the host nation identify where best AUSMATs can fill gaps in health service delivery post disaster.

Table: What is monitored by HeRAMS?

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<tr>
<th>Health facilities</th>
<th>Resources for service delivery</th>
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<td>• Human resources</td>
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<tr>
<td>• Type</td>
<td>• Equipment</td>
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<td>• Geographical location</td>
<td>• Medicines</td>
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<td>• Functionality</td>
<td>• Electricity</td>
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<td>• Accessibility</td>
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<td>• Cold chain</td>
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<td></td>
<td>• Communications</td>
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<td>• Waste management</td>
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<table>
<thead>
<tr>
<th>Availability of health services</th>
<th>Reasons for gaps</th>
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<tr>
<td>• Clinical and trauma care</td>
<td>• Lack of health staff</td>
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<td>• Child health care</td>
<td>• Lack of equipment</td>
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<td>• Communicable diseases</td>
<td>• Lack of medical supplies</td>
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<td>• STI and HIV/AIDS</td>
<td>• Lack of finances</td>
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<tr>
<td>• Maternal and new born health</td>
<td>• Lack of training</td>
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<tr>
<td>• Sexual violence</td>
<td>• Other</td>
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<tr>
<td>• Non-communicable diseases</td>
<td></td>
</tr>
<tr>
<td>• Mental health</td>
<td></td>
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<tr>
<td>• Specific hospital care</td>
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I’m a deployed clinician interested in providing the best clinical care to my patients. Why do I need to spend time with documentation and data collection?

- Information is the key for disaster affected countries to plan and provide a co-ordinated response that assists those most in need.
- AusMAT observations and experience in the field can directly contribute to this assessment, if the information is provided in a timely fashion and in a format that is useful to them. This in turn helps identify where best AusMAT expertise can be tasked.
- Clinicians who identify and report unusual health events and specific clinical syndromes or conditions, as per local guidelines, assist with early detection of health issues that may affect a larger population, and allows investigation and control measures to be implemented.
What's happening: Medicine kit review and repack

By Tristen Pogue

There have been numerous improvements to the medicine kit in recent times. A full medicine kit review was undertaken in 2015 with many adjustments to ensure the EMT standards are met and to allow for variations in deployment capability.

The kit has been repacked to reflect these changes and split into several capabilities e.g. mobile EMT1, EMT1, and EMT2 (see below).

In conjunction with the kit review, new modular boxes have been sourced along with improved medicine security with locks which are keyed alike - keys will be issued to authorised personnel on deployment.

An electronic Pharmacy Inventory Management System, more affectionately known as PiMS, has been developed to enable; accurate and reliable stock rotation, simple creation of a customs manifest and individual box manifests, and a drug information resource listing; drug location summary (see below) and a drug use guide. We are also moving to enhance our cold chain processes by sourcing additional temperature data loggers and reviewing available deployment suitable fridges. There are some exciting changes happening in this area - stay tuned!

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<thead>
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<th>Med Type 1</th>
<th>Med Type 2</th>
<th>Name of Medicine</th>
<th>Volume</th>
<th>Quantity</th>
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<td>Clotrimazole, pessary 500mg pessary</td>
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<td>Crotaminton Cream 10 % 20g Tube</td>
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<td>54</td>
<td>HUM Box 2, HUM Box 3, HUM Box 6, HUM Box 7, HUM Box 11, RRK 1, RRK 2, RRK 3, RRK4</td>
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<tr>
<td>Antieoplastic</td>
<td>Corticosteroid</td>
<td>Dexamethasone 4mg/mL Injection</td>
<td>5</td>
<td>40</td>
<td>HUM Box 15, HUM BOX 19, RRK 1, RRK 2, RRK 3, RRK 4</td>
</tr>
</tbody>
</table>
**What is Coartem?**

Coartem® are combination artemether/lumefantrine 20mg/120mg tablets used for the treatment of malaria. The Australian brand is Riamet®.

Indicated for the treatment of acute uncomplicated malaria from Plasmodium falciparum in patients equal to or greater to 5kg.

**Why Coartem?**

Malaria is a disease in the Asia Pacific region however treatment is expensive (~$80 per course) and is difficult to dose using the Riamet® product e.g. the box often needs to be split and it doesn’t account for language barriers. Thus, procurement of the CoArtem® brand was sought internationally for use on AusMAT deployments at ~$0.5-$2 per course depending on the weight group. Coartem® is specially packed into individual courses by patient weight with clear written and pictorial directions for use where there may be a language or literacy barrier. Also, the tablets are dispersible in the yellow and blue coloured courses.

**Dosing:**

At diagnosis the first dose should be given followed by five further doses given at 8, 24, 36, 48 and 60 hours thereafter.

Should be taken with food to increase absorption.

The dispersible tablets can be mixed in about 10 mL water per tablet and then taken. The cup should be rinsed with a small amount of water (10mL) and this also drank.

**Side effects:**

Common: Nausea, vomiting, headache, dizziness, sleeping disorder, anorexia, diarrhoea, myalgia, arthralgia, weakness, fatigue, palpitations, itch, and rash.

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**Get vaccinated!**

*The flu season is fast approaching*

We are now approaching flu season as such it is timely to remind everyone that a current vaccination record is required for deployment. Influenza cases in Australia have been on the rise in recent years with a 42% increase from 2014 to 2015. This year a quadrivalent influenza vaccine is available in Australia and we recommend all AusMAT volunteers get this vaccine for additional protection.

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**What is Coartem?**

Coartem® are combination artemether/lumefantrine 20mg/120mg tablets used for the treatment of malaria. The Australian brand is Riamet®.

Indicated for the treatment of acute uncomplicated malaria from Plasmodium falciparum in patients equal to or greater to 5kg.

**Why Coartem?**

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Main Picture: Ryan Clay, assessing the UK DFID team in assembling an Alaskan shelter for EMT type 2 Capability

Top Left: A fully erected Alaskan shelter

Top Right: The Team is throwing out an extra large space blanket to get under and away from the cold

Right: The DFID team is baffled by Ryan Clay’s stories about the sweating-in-the-shadephenomena that only occurs in Darwin

“The knowledge and reputation of the NCCTRC has contributed to the leadership that the centre commands in the Emergency Medical Team domain.”
The National Critical Care and Trauma Response Centre (NCCTRC) is internationally recognised as a leader in the delivery and operation of mobile hospital and medical capability, primarily through Australian Medical Assistance Team (AUSMAT) deployment and activities.

The knowledge and reputation of NCCTRC has contributed to the leadership that the center commands in the Emergency Medical Team domain.

In late October 2015 NCCTRC collaborated with the World Health Organisation to deliver the Emergency Medical Team (EMT) Coordinators workshop in Darwin and also the inaugural EMT Global Meeting in Panama in December 2015.

As a result of these collaborations NCCTRC is being promoted as a mentor and world leading role model for training, logistics and equipment management.

The United Kingdom (UK) Conflict Humanitarian and Security Agency of the Department for International Development (DFID) recently requested that NCCTRC send AUSMAT Logistics officers Terence Trewin and Ryan Clay to DFID for two weeks to provide technical advice and review capability of their EMT Type 2 during a build exercise.

AusMOG Trewin and Clay have spent 14 days in the UK providing expertise on the field facility, assembly and capability, the AusMOGs gave advice regarding the package, storage and transportation of the kit and recommendations for components of the field hospital that may require improvement to meet new EMT standards and desired capability.

This has been an ideal opportunity for NCCTRC to meet with key international stakeholders and provide advice on our experiences for future development and collaboration.
Going Global

The EMT Initiative

Mission
Reducing the loss of lives and prevention of long-term disabilities as a result of sudden onset disasters and outbreaks through the rapid deployment and coordination of quality assured Emergency Medical Teams.

- Preserving Health
- Protecting Dignity
- Saving Lives

The WHO EMT Initiative aims to support member states, NGOs and international organizations by identifying best practice and minimum standards in clinical care, operational field logistics and coordination. EMT coordination will be offered in support of a nation requesting international medical team assistance for the care of its population affected by a SOD or outbreak.

Operational Settings and Priority Areas
All health systems are comprised of a series of escalating levels of care from basic primary health to district hospitals to regional referral centres, and it is common practice for patients to move between all levels of care. EMTs in an SOD support the surge in demand at each of these various levels or temporarily replace damaged facilities.

A pre-existing knowledge of context and capacity rapid assessment of facilities and surge in demand can be used to calculate estimated needs for EMT surge capacities.

This model also shows the importance of Ministries of Health leadership in distribution or tasking of EMTs to cover the needs based on an initial impact assessment.
Global EMT Classification List & Minimum Standards

Benefits of an EMT classification and quality assurance process

» Governments and people affected by emergencies and outbreaks can be assured of a predictable and timely response by well trained and self-sufficient medical teams.

» Medical Teams that reach the minimum standard and are quality assured in a peer review process and have a streamlined arrival process.

» National & Regional EMTs will be capable to prepare & respond to domestic, sub-regional & regional events. This will ensure even more timely and appropriate responses to health emergencies in the future.

» Donors and the general public can be assured that EMTs have reached an international minimum standard and work within a globally coordinated response system.

» The development of an EMT Community of Practice and the creation of a knowledge hub will allow EMTs to share SOPs and best practice.

» Operational research and development by WHO and partners will improve EMT performance.

Transformative Changes Post Haiti

There has been significant progress in quality and coordination of EMTs from Haiti to the Philippines' response. Lessons learned from international operations in the Philippines, West Africa, Vanuatu and more recently Nepal have highlighted the need for flexible and effective coordination mechanisms that take into account the local context and operational environment.

By working with and through the Nepalese Ministry of Health, the Emergency Medical Team Coordination Cell was able to verify and coordinate pre-registered and ad-hoc teams during each phase of the response, ensuring alignment with wider international humanitarian coordination methodologies and harmonisation with the Governments own endeavours to provide immediate care for the injured and restoration of access to critical health services. This was the first time that such a coordination mechanism was implemented globally.
The National Critical Care and Trauma Response Centre’s Bronte Martin was seconded to the Geneva to work on ensuring this program is being rolled out globally through the World Health Organisation.

Bronte, as a founding member of the NCCTRC team, has been active in the establishment of key clinical acute healthcare partnerships in emergency and disaster management in the south-east Asian region; deploying with AusMAT in senior leadership roles to Tropical Cyclone Pam - Vanuatu and Typhoon Haiyan - Philippines.

International Emergency medical teams are an important part of the global health workforce and have a specific role to play following a disaster, and need to respond with timely, qualified and self-sufficient teams to avoid imposing a further burden on a disaster affected healthcare system.

The need for coordination for Emergency medical teams entering a disaster-affected nation has arisen from recent events like the Haiti earthquake, the West African Ebola epidemic, Nepal earthquake and Cyclone Pam in Vanuatu last year.

Bronte, who is the NCCTRC’s Nursing Director of Trauma and Disaster, returned last month from Geneva where she has spent the past six months developing and establishing the Global Classification, Mentorship & Verification program; ensuring validated, quality international Emergency medical care is delivered in response to Disasters. “I’m extremely fortunate and grateful to have had the opportunity to work amongst the world experts in disaster response; it was a very busy and exciting time to join the team at WHO Headquarters”, Bronte said.

Whilst based in Geneva Bronte had many opportunities to travel the globe and observe the leading international medical teams “providing advice and expertise” around the development of a global quality assurance framework and a “systems to verify international EMTs are meeting the minimum standards” now set as the benchmark for future responses.

Bronte was pleased, not surprisingly, to find Australia has an “excellent reputation as the provider of a gold standard, field deployable hospital and disaster response team amongst the Global EMT community” and is at the international forefront of leading the drive for improved professionalism and standards.

Through the ongoing support of the Australian Government, the NCCTRC and AusMAT have led the way in developing, promoting and adhering to the highest standard of medical response to disasters. TQ
I’m Julia Mansour and I’m the current Director of the Emergency Preparedness and Response Section in the Health Emergency Management Branch, in the Office of Health Protection in the Australian Government Department of Health. My team is responsible for looking after the Department of Health’s relationship with the National Critical Care and Trauma Response Centre (NCCTRC) and we support a number of key committees that provide governance and strategic direction to the future of AUSMAT, including the Australian Health Protection Principal Committee (AHPPC), the National Health Emergency Management Standing Committee and the AUSMAT Working Group. Through these forums, I have the privilege of participating in national conversations about AUSMAT as Australia’s primary health response capability for emergencies and outbreaks, which includes the development and review of a number of national response plans. When it comes to deployments, my job is to work with other Australian Government agencies (especially Department of Foreign Affairs and Trade) to help assess whether AUSMAT may be able to support an Australian Government response to another country requesting assistance to manage a health related incident or emergency. I am also responsible for keeping senior staff in the Department of Health (including the Chief Medical Officer) informed about response arrangements, supporting consultation across state and territory health emergency managers, and supporting AHPPC consideration of deployment options.

Humanitarian Networks and Partnerships Week

The outgoing Director Disaster Preparedness and Response Matthew Harper attended the World Health Organisation’s Humanitarian Networks and Partnerships Week (HNPW) and associated side meetings in January this year.

As part of the second Humanitarian Networks and Partnerships Week, the WHO project for Emergency Medical Teams was incorporated as one of the key international partnership programs currently underway.

The NCCTRC/AusMAT was represented as major funder and supporter. Australia was also represented by Department of Health (Julia Mansour) and Department of Foreign Affairs and Trade (Michael Hassett and Craig Kentwell).

“This format provided an excellent platform to start engaging on the world stage” Matt said. “The nature of HNPW means that it is a very full agenda and not all of it will always have immediate relevance. It is however an excellent platform for gaining a better appreciation of some of the politics and work that is happening around us, particularly in the slow onset and complex event space.

“The ability to attend this event with DFAT and DoH was most fortunate. It has been very rare for all three organisations to be represented, and I believe that the learnings afforded to all of us both from the formal sessions and from each other were excellent. Part of this was that we were represented by three strong characters with significant and mutually appreciated experience. This allowed a level of strong discussion, caucusing cooperation and trust which may not have been available with other mixes of participants.

Hello!

I’m Julia Mansour and I’m the current Director of the Emergency Preparedness and Response Section in the Health Emergency Management Branch, in the Office of Health Protection in the Australian Government Department of Health.

Foreign Affairs and Trade and Emergency Management Australia) to help assess whether AUSMAT may be able to support an Australian Government response to another country requesting assistance to manage a health related incident or emergency. I am also responsible for keeping senior staff in the Department of Health (including the Chief Medical Officer) informed about response arrangements, supporting consultation across state and territory health emergency managers, and supporting AHPPC consideration of deployment options.
The Emergency Medical Teams (EMT) Secretariat of the World Health Organization, together with the Pan American Health Organization organized the EMT Global Meeting in Panama City, 1-3 December 2015.

The meeting provided an opportunity for 150 participants drawn from Government (over 30 member states teams), civil society and the private sector (over 40 teams) and international organizations, to participate in discussion and debate on a number of issues relating to the current implementation and ongoing development of the EMT initiative.

The Australian Government, Department of Health supported representation from the NCCTRC, Abigail Trewin, (A/Director Disaster Preparedness and Response) and the Humanitarian Response and Partnerships program, Amanda Andonovski (Emergencies Officer, Department of Foreign Affairs and Trade) to the three day meeting.

The topics covered over the three days included updates on the EMT global initiative, change of terminology from FMT to EMT, and the Reform of WHO work in outbreaks and emergencies, including the Global Health Emergency Workforce (GHEW);

» EMT Emergency Medical Teams
» NEMT, National Emergency Medical Teams
» IEMT, International Emergency Medical Teams

The meeting also included discussion on strengthening global collaboration and capacity, the EMT quality assurance framework including registration, mentorship and verification processes and procedures, national mechanisms for team registration and coordination, and minimum standards for national and international teams.

The plenary sessions were supported by a number of smaller breakout parallel sessions covering topics spanning clinical, governance, logistics and training. Updates and information were provided by representatives from the Americas, Europe Africa and Middle East, and the Asia-Pacific Region followed by Regional consultations.

The global meeting provided a unique opportunity to evaluate Australia’s capacity to respond to sudden onset disasters and the emerging issues and complexities related to previous responses. It also allowed for three presentations from Australia on the AUSMAT capability to a global audience. The sessions focused on topics such as lessons learned, supporting an EMT in the field, and clinical guidelines of an EMT. This experience has directly enhanced not only our global position, but the enriching of important relationships with the UK, NZMAT and JICA and the project to create a toolbox, hosted by the NCCTRC for sharing information across EMT’s.
The Emergency (Foreign) Medical Team Coordination Cell course was designed to develop a cadre of internationally trained Coordinators to rapidly deploy in the aftermath of sudden onset disasters/outbreak in collaboration with WHO in direct support Ministry of Health of affected countries to manage the acceptance, tasking and coordination of national and international medical teams providing emergent clinical care.

The pilot course was conducted in Darwin Australia, 26-30 October and was hosted by the Australian National Critical Care & Trauma Response Centre. 21 international participants from across the Asia-Pacific region including Australia, Japan, New Zealand, Fiji, Vanuatu, Solomon Islands, Korea and Philippines completed the pilot training package. Global partners OCHA, UNDAC, EU and GOARN were also represented. 11 international expert faculty supported the delivery of the unique and dynamic nature pilot course, which was noted to be highly valuable, relevant and significant training opportunity for all involved.

The training event attracted positive media reporting in print, television, radio, online and social media platforms at national and regional levels.

Key partners /organisations involved:
» NCCTRC
» Australian Medical Assistance Team / Australian Government - Dept Health
» Japan Disaster Relief Team
» Korean disaster Relief Team
» Philippines Ministry of Health
» New Zealand Ministry of Health
» Fijian Ministry of Health
» Vanuatu Ministry of Health
» Solomon Islands WHO Country office
» Asia Pacific OCHA & UNDAC
» European Union

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” – World Health Organisation Definition of Health
Preparing for deployment to tropical climates

By Dr Matthew Brearley

Deployment requires adjustment to local customs and conditions, including the local environment.

Northern Australia and South East Asia are considered tropical regions where high ambient temperatures are common and may be accompanied by seasonal elevation of environmental moisture. AusMAT deployments to tropical regions will be influenced by the hot and possibly humid conditions, as responding in the heat places the additional impost of body heat storage on AusMAT members. Physical fitness and heat acclimatisation are the two key strategies maximising tolerance in hot and humid conditions. The NCCTRC has developed heat acclimatisation guidelines to assist AusMAT members. Here we provide a brief overview, as the guidelines are published in the February 2016 edition of Prehospital and Disaster Medicine (available here http://journals.cambridge.org/repo_A109u8JZMQPaCE).

AusMAT members possessing physical fitness through regular endurance training will adapt rapidly to new climates, exhibiting greater tolerance than untrained counterparts. Adaptations to chronic exercise mimic those of heat acclimatisation, hence those AusMAT members possessing physical fitness will have partially achieved heat acclimatisation. In this regard, AusMAT members should maintain a level of fitness year round in readiness for deployment.

To assist AusMAT members, a point based system is recommended to quantify your training. Points are calculated by multiplying the duration of the session (in minutes) by the intensity or rate of perceived exertion of the session from Table 1. For example, a 45 minute session that was rated as hard (equivalent to 5) would be calculated as follows 45 x 5 = 225 points.

Any training session can be calculated by this method, it’s simply a matter of rating the session. Examples of sessions that achieve the minimum 120 points are:

- 60 minutes of walking (2/fairly light) = 120 points
- 45 minute aerobics class (4/somewhat hard) = 180 points
- 50 minute ‘boot-camp’ session (5/very hard) = 250 points
- 40 minute social basketball league game (3/moderate) = 120 points
- 30 minutes of rowing machine intervals including rest periods (5/hard) = 150 points

Individual pacing will determine the rating of each session so these examples are just that, suggestions to get you started.

How to Become Heat Acclimatised

Table 2 details a 14 day program to achieve heat acclimatised status. These recommendations are suitable for individuals with minimal (starting at day 1) to moderate (starting at day 8) training history. The objective of each session is to elevate and maintain core temperature beyond 38.5oC. Given the lack of valid core temperature data during training, thermal sensation ought to be

<table>
<thead>
<tr>
<th>Rating</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Nothing at all</td>
</tr>
<tr>
<td>0.5</td>
<td>Very, very light</td>
</tr>
<tr>
<td>1</td>
<td>Very light</td>
</tr>
<tr>
<td>2</td>
<td>Fairly light</td>
</tr>
<tr>
<td>3</td>
<td>Moderate</td>
</tr>
<tr>
<td>4</td>
<td>Somewhat hard</td>
</tr>
<tr>
<td>5</td>
<td>Hard</td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Very hard</td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Very, very hard</td>
</tr>
</tbody>
</table>

Table 1. Rate of perceived exertion scale
relied upon to determine pacing, with an overall perception of very warm to hot considered appropriate during the sessions. A high sweat volume should also be experienced. If residing in a cool climate, utilise additional layers of clothing to promote heat storage and train in the warmest part of the day. Tropical regions provide the optimal environment for heat acclimatisation.

A day without training should round out the initial week, allowing recovery for the higher volume sessions of the second week. The required point scores progress such that sessions of 250 points should be achieved in the later stages of acclimatisation.

<table>
<thead>
<tr>
<th>Days</th>
<th>Point Score</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 2</td>
<td>80 - 120</td>
<td>Train with a partner and/or at a venue where assistance is within a manageable distance. Example sessions include 40 minutes of brisk walking (3/moderate); 60 minutes of easy walking (2/fairly light).</td>
</tr>
<tr>
<td>3 - 4</td>
<td>120 - 180</td>
<td>50 minutes of brisk walking (3/moderate); 40 minutes of tempo cycling (4/somewhat hard).</td>
</tr>
<tr>
<td>5 - 6</td>
<td>180 - 220</td>
<td>70 minutes of brisk walking (3/moderate); 50 minutes of tempo cycling (4/somewhat hard).</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Recovery. Following 6 days of training, allow a complete day without training to assist you to adapt and complete the remaining 6 sessions.</td>
</tr>
<tr>
<td>8 - 10</td>
<td>220 - 250</td>
<td>80 minutes of brisk walking (3/moderate).</td>
</tr>
<tr>
<td>0 - 14</td>
<td>250+</td>
<td>90 minutes of brisk walking (3/moderate).</td>
</tr>
</tbody>
</table>

Table 2. Heat acclimatisation program for AusMAT members with minimal training experience

**AusMAT Heat Survey**

The development of pre-deployment heat acclimatisation guidelines assist to mitigate heat stress through training in the home environment. But what happens during deployment, how do we know the AusMAT members are coping with the heat, getting enough sleep, have access to adequate fluids and that the rations are sufficient? We couldn’t simply ask them as there is a tendency to say I’m fine and carry on, prioritizing the health of the sick and injured over there own.

So we embarked on a project to develop a well-being questionnaire for use during deployment, with the primary goal of being able to provide team leaders with visibility of team well-being. This project was a collaboration between the NCCTRC and the University of Tennessee PhD candidate Stasia Ruskie. Based upon the available literature, several versions of the well-being questionnaire were developed and trialled during training courses and Tour de Timor deployment. The end product was utilized for the first time during the 2016 Fiji deployment. After a few communications teething issues, the AusMAT members completed the anonymous electronic questionnaire following each shift. The information was collated and a key points were relayed to the team leader.

To our knowledge, this questionnaire is a world first for medical responders and based upon the Fiji experience, will be utilized on future deployments.
Mobile Mortuary

The latest acquisition for the AusMAT deployable cache is a mobile mortuary unit. The new capability is a modular system, allowing for 4 or 24 beds to be deployed. Each bed has a refrigerated sheet that is placed inside the body bag connected to a cooling unit and directly cools the remains to between 2-4 degrees, removing the need for a refrigerated room. This new capability can deploy as a 'standalone', for events where forensic or victim identification delays the repatriation of the body, or as part of an EMT Field unit.

CLD 500 – PAPR SUITS

As part of the infectious disease and HAZCHEM response capability, the NCCTRC has invested in 40 Powered Air Purifying Respirator (PAPR) suits. CLD500 is a level C1 fully encapsulated PAPR powered by rechargeable lithium battery.

This increases the capability of the NCCTRC infectious disease pod which was successfully tested last year during Ebola infectious disease training.

PAPR suits are generally used by first receivers at healthcare facilities for decontamination of patients from large scale hazardous material incidents and can also be used for protection of health care providers in the management of patients with infectious communicable diseases of significance.

These suits have great visibility with a clear window, allowing patient interaction and air flow that assists in reducing fogging – despite the tropical heat! It has been documented that fatigue is also better managed as the positive air flow means no sucking through paper masks. Those with facial hair can also rest easy – they can keep their Movember pride intact.

The suits simplify the decontamination process in comparison to the many layers used by health care professionals against the real nasties. The suit is fully water proof and can tolerate high concentrations of cleaning chemicals such as chlorine.

The donning/doffing and use of these suits will require scheduled training to ensure maintenance of competency. The NCCTRC is working on a training package to ensure integration into relevant responses.
The center prior to this purchase had four Blue Med Shelters. This capacity has now been increased to five with the recent acquisition that includes the capacity to run the shelter with negative pressure. This capability was purchased to enhance the infectious disease POD and continue the work from the Ebola workshops to finalize capacity.

For the ID nerds out there in AusMAT land...

The system includes 3 components: a Filtration System that maintains negative pressure within the shelter, an Alarm System that monitors pressure and signals a loss of pressure, and a shelter partition for creating an Anteroom entrance to the isolation area.

The NPI system controls three elements of indoor air quality: particles, biological and gas phase volatile organic compounds (VOCs). It includes a high efficiency germicidal pre-filter, sterile sweep ultraviolet light (UVC) and a final HEPA filter.

For the rest of us interested members, it means we can provide negative pressure isolation in the field with up to 10 beds (dependent on bed distance) or simply use it as a ward or surgical structure as the Anteroom design now provides excellent visibility without intrusion into the surgery/ward area.

@THE NCCTRC CACHE

Another new face to the NCCTRC is our new Operations Manager, Guy Price, who underwent a baptism of fire when he arrived in the middle of our deployment to Fiji – managing warehouse staff, liaising with Canberra to get Team Bravo deployed, and then a party of others to get everyone and the cache returned.

Prior to joining us Guy was an NTG Environmental Health Officer working across West Arnhem region, which also saw him called upon to assist in developing the waste management plan for the Daly River Flood Response in Jan this year. Like a number of NCCTRC staff he has previously worked abroad with the Australian Defence Force (in the Middle East) and with Aspen Medical (East Timor and the Solomon Islands). Further to this Guy was an associate trainer on the RedR course WASH (Water Sanitation and Hygiene) in Emergencies for 5 years. Before moving to the Territory in 2013 he was a senior operations officer by Health & Human Services Emergency Management (VIC), and has also worked for CSL in manufacturing Flu Vaccine, with CSIRO conducting studies on domestic greywater, and as a Forest Fire Fighter with the Victorian Dept. of Natural Resources. He will say his hobbies include fishing and triathlons, yet the latter sounds more like hard work than pleasure.

Guy Price
A/G Manager
AUSMAT Operations
Mobile Laboratory

As part of the increased capability of the NCCTRC, a new mobile laboratory has been added to its deployable kit.

Containing five major pieces, the lab will serve both the mobile EMT1 units as well as the larger surgical EMT2/3 sites. The lab will allow for safe whole 'walking' blood transfusions of up to 40 units and has on-site microbiology using (real time - polymerase chain reaction) RT-PCR. This exciting new mobile technology allows for sepsis screening of major blood, respiratory, gastrointestinal and cerebral infections.

These microbiological aspects will expand the diagnostics of doctors and nurses and allow for rapid isolation of infectious patients in the field hospital as well as checking key markers of illness not previously available.

Trials of the mobile laboratory are planned in Katherine hospital in coming weeks, and training for some AusMAT personnel will be taking place with the help of Flinders University Point of Care department.

Hemocue WBC

The labs iSTAT and HemoCue301 and HemoCueWBC machines allow for easy transport with mobile teams and accurate measurement of electrolytes, haemoglobin and white cell counts and give the surgical units rapid point of care information while operating.

Introducing Dr Ian Marr

Ian Marr is an Advanced Trainee in Infectious Diseases and Microbiology based at Royal Darwin Hospital.

He has recently joined the NCCTRC with the role of developing a mobile laboratory servicing the EMT1 and EMT2 AusMAT deployments. This equipment includes exciting new mobile Polymerase Chain Reaction (PCR) technology that allows screening of multiple infective diseases at the same time in a deployable scenario, thus expanding the capability of AusMAT.

Closely linked with the Territory Pathology service at Darwin Hospital, Ian has managed to incorporate training modules that will also upskill AusMAT staff with the new equipment.
ROFI – the New Habitat Test

The AusMAT cache has a number of shelters, including the Campmore – our green canvas structure that many AusMAT members have shared a close intimate experience with others while on deployment. There is nothing quite like sharing on an AusMAT mission, you get to know a little too much about your colleagues and they of you.

While many may shout Hurrah! the the Campmore’s are headed to retirement (for sleeping under at least) while we can’t promise you more space, we can promise you an attempt to make your sleeping cooler. We will be testing over the next couple of months a shelter called the ROFI Alpha. The significant differences to the Campmore’s, its white…. While not looking forward to the quarantine clean, it has a sealed floor and is broadly used across a range of agencies who deploy across the world. If we like it, and we are hoping we will, four more will be purchased in the new financial year. This will support a habitat capability of fifty in perhaps a little more stylish surrounds ….. after all it is made by Norwegians.

Water Purification

As all deployees know … good things come in space cases. The latest ‘toy’ for our AusMOGs is a new water filtration unit. The difference, its been built in house by the AusMOG team and meets all safety water purification requirements for field deployments. This now provides an additional capacity (40 thousand liters) a day of fresh water or redundancy during filter changes or mechanical breakdown. The AusMOGS or DWOCTORS as they prefer to be known tell us they are very clever and here is another demonstration of their intellect (yes I was paid to write that).

@THE NCCTRSCache

Henry joined the team at the Warehouse in January as a clinical expert to provide operational support.

His background is an extensive career as a nurse, originally training in Germany, where he worked for 19 years as an Intensive Care and Anaesthetic nurse at a major teaching hospital.

Henry immigrated to Australia in 2002.

He has worked for the Royal Darwin Trauma Service, Emergency department, as a Remote Area Nurse, in the Operating Theatre, Intensive Care and more recently as a Public Health Nurse at the Centre for Disease Control’s Tuberculosis/Leprosy unit.

The current project Henry is working on is a clinical capability assessment for the EMT Type 2 Field Hospital.

Henry Janssen
Capability Officer
NEGLECTED TROPICAL DISEASES (NTDs)

By Dr Ian Marr

Infectious diseases flourish in the developed world. As part of the World Health Organisations challenge to overcome this burden they have created a list of often forgotten and obscure diseases – called the Neglected Tropical Diseases (NTDs). NTD’s are common in the poorest of the poor; people who often are without a political voice. Often found in remote or slum areas they may take hold because of conflict or limited health care access and can be difficult to diagnose.

While being hard to pronounce doesn’t help, these diseases are often not fully understood by the public nor politicians.

Numbers are hard to come by as statistics are vague and often unreliable - led by a lack of money and not being in the political consciousness.

While there has been some debate over the actual diseases that get to make the list, there seems to be consensus over the first 13*. Of these the first five are still present in Australia (some very rarely) and the first eight in our SE Asian Region – therefore likely to be encountered on AusMAT deployments.

1. Trachoma
2. Leprosy
3. Foodborne trematodiases – i.e. Fasciola (liver fluke)
4. Buruli ulcer (Bairnsdale ulcer)
5. Soil-transmitted helminths (i.e. Ascariasis, Hookworm)
6. Lymphatic filariasis
7. Schistosomiasis
8. Taeniasis and neurocysticercosis
9. Chagas disease
10. Human African trypanosomiasis (sleeping sickness)
11. Leishmaniasis
12. Dracunculiasis (guinea-worm disease)
13. Onchocerciasis (river blindness)
There are a number of other diseases that have been suggested to be included in this list - and some have finally made it. These are often referred to as the neglected' neglected tropical diseases (NTDs) – the forgotten of the forgotten. They include

1. Scabies
2. Dengue/Chikungunya
3. Echinococcus
4. Yaws
5. Rabies

As part of our new deployable lab we will be entering the world of diagnostics for NTD’s. With basic microscopy skills provided by our new BX53 microscope, plus the advantage of mobile PCR technology AUSMAT deployments will encounter these diseases and in turn hopefully make them not so ‘neglected’.

As devastating as that particular attack was, recent terrorist attacks in Paris and Brussels have shown multiple incidents at multiple locations (including airports) can cause death and injury spread over a wide area and create unimagined logistical problems. In addition, Bali (like many parts of Indonesia) is at risk of natural disaster including earthquakes and tsunami, which may also result in hundreds or even thousands of injured people.

In March 2016 a delegation from the NCCTRC went to Bali to meet key personnel to collaborate on the preparedness of Disaster management with key stakeholders including health care services should there be another major disaster.

The trip objectives focused on:

1. Coordination of disaster management in Bali
2. Road infrastructure logistics
3. Ambulance and local transport of victims
4. Medical Capacity (including Sanglah hospital)
5. The airport and evacuation of Australians and other nationals from Bali
6. AusMAT/NCCTRC deployment

Bali is both prone to natural disasters and a high threat area for a terrorist attack. As such, a worst-case scenario cannot simply be considered along the lines of the 2002 Bali bombing, Bali 1.

“The steps mutually identified as priorities of focus over the next six months aim to assist the hospital in its immediate coordination response, reception phase of a mass causality event and ultimately improve outcomes of the injured.”

PICTURED L-R: Rhiannon Wake, Pak Indra - BPBD, Dan Holmes
RSUP Sanglah

The Sister Hospital Program between Royal Darwin Hospital (RDH) and Sanglah Hospital in Bali commenced in 2011 when a pilot program was funded by the NT Government to see if there was any benefit in further developing a relationship between Sanglah Hospital and RDH which had begun following the Bali bombing in 2002. The pilot program was an outstanding success and it resulted in a successful application for a 3-year program to AusAID which commenced in 2012. This project saw rotations of staff from Sanglah visit RDH on clinical placements and visits from RDH clinicians working primarily in the ED and ICU. As part of Bali’s disaster management plan, the initial medical response will be entirely local and coordinated through Sanglah hospital.

Funding for the project ceased in Feb 2015. Since then the NCCTRC has provided bridging funding to maintain the relationship between the two hospitals.

As part of the March visit, the NCCTRC delegation met with Sanglah executives and spent some time in the emergency department as well as visiting other critical care areas including the Burns Unit and the Intensive Care Unit. Some new issues of priority were identified and have formed the focus of the ongoing project plan for the immediate next six months. These include;

Bringing a further 4 senior Sanglah delegation to Royal Darwin Hospital focusing on protocols in the ED, patient flow.

Sending an ED educator and Nurse Unit Manager to assist with implantation of;

Providing training courses, MIMMS & HMIMMS

As Sanglah is the medical response coordination point and primary receiving hospital in the Bali disaster management plan, the NCCTRC places great value on maintaining our collaborative and strong sister hospital relationship. The steps mutually identified as priorities of focus over the next six months aim to assist the hospital in its immediate coordination response, reception phase of a mass causality event and ultimately improve outcomes of the injured.

Counter-Terrorism Czar visits NCCTRC

The National Counter-Terrorism Coordinator Greg Moriarty was in Darwin this week and toured the National Critical Care and Trauma Response Centre’s disaster warehouse. Mr Moriarty was in town for a series of meetings. It was not the first time the CT coordinator has visited the NCCTRC however it was the first opportunity for him to see the disaster warehouse with elements of the response capability on show.

Mr Moriarty was previously Australia’s Ambassador to Indonesia. >TQ
For the February 2016 deployment to Fiji following devastating cyclone Winston, AUSMAT was able to offer a new capability and service to the Fijian Ministry of Health. Three AUSMAT team members were selected for their experience in managing the response to and coordination of emergency operations, to provide advice and support to the Health Service Emergency Operations Centres (EOC). The Fijian Health Service aligns with local government areas into four divisions, northern, central incorporating the capital Suva and the Ministry of Health (MoH), eastern, and western.

Dr Hugh Heggie was deployed to the western division EOC, which incorporates large areas of the north of Viti Levu Island which were the worst affected by the cyclone, including extensive infrastructure and communications damage. One of the greatest challenges for Hugh and the Divisional Medical Officer (DMO) responsible for Western Division was gathering information to inform their planning and response in light of the communications failures, including coping with the disruptions to power and services at their own hospitals and EOC.

Assist./Prof Alison McMillan worked with the Ministry of Health EOC based in Suva, working closely with the National Health Disaster Coordinator Mr Vimal Deo supporting Minister L Zessler’s team in coordinating the national response, rehabilitation and recovery program. Whilst the capital was unaffected by the cyclone the Ministry was challenged with establishing a clear picture of sub divisional and divisional capabilities and gaps, in particular regarding early syndromic surveillance.

Mr Mark Cannadine Director Emergency Management for SA Health, assisted the joint Central/Eastern Division EOC, which incorporated areas from Suva, up the east coast and the islands to the east of Viti Levu, which had also been badly affected. With resources from the capital to draw from the Central/Eastern divisions and EOC were well coordinated and had not suffered as extensive infrastructure damage as Western Division. After three days working with the DMO Mark moved to the Ministry to

EOC: FIJI

By Mark Cannadine
help Alison and the team with the significant challenges of national coordination.

The Fijian MoH responded well in the early days following the cyclone deploying medical and surgical teams into the field to support local clinicians. What became clear though was the inability of local communities to travel to health centres to access medical services or for local nursing and medical staff to gather syndromic surveillance data to help inform public health interventions and countermeasures.

Dr Philippa Binns the team Epidemiologist was embedded with the AUSMAT teams providing the essential mobile outreach service, reaching communities previously cut off and in need of medical support. The outreach teams did an outstanding job, treating more than 1700 patients in 2 weeks with Pip gathering surveillance data from both the eastern and western divisions.

Pip was also able to link with the three EOC members to help establish a holistic picture of how the response was progressing at a local, divisional and national level. Importantly this helped the EOC members identify gaps in the data gathering, reporting and coordination systems previously undetected and to help fill these gaps with the tools developed by Pip in the field.

By the end of the deployment the EOC team including Pip was able to compile a report for the Ministry summarising their observations and outlining opportunities for further development and refinement of their emergency management, coordination and surveillance capabilities. With the mobile outreach teams again providing the outstanding clinical service for which AUSMAT is well known, the EOC capability added a new dimension for AUSMAT in helping coordinate strategic, tactical and operational activities during an emergency but also helping build the capability and resilience of host nations into the future and will doubtless be an option for future deployments.

"What became clear though was the inability of local communities to travel to health centres to access medical services or for local nursing and medical staff to gather syndromic surveillance data to help inform public health..."

FIJI DEBRIEF
Melbourne, Australia 28-329 April 2016

The AUSMAT team members gathered in Melbourne late last month to revisit the deployment to Fiji in the aftermath of Tropical Cyclone Winston.

This event provided the opportunity for AUSMAT deployees along with DFAT and Department of Health officials to get together and talk through the response. The debrief allowed for lessons learned to be identified and was essential for AusMAT deployees to have the opportunity to re-engage after the mission, discuss deployment issues and experiences in order to ensure improvement and refinement of processes for future deployments and to document the important feedback provided by deployees. The debrief was facilitated by the Humanitarian Advisory Group.
The NCCTRC hosted a number of high level visits in April. Ambassadors and High Commissioners from nine of the Northern Territory’s closest neighboring countries visited the National Critical Care and Trauma Response Centre on Tuesday April 5. The Canberra-based Heads of Mission (HOMs) of the Association of South East Asian Nations (ASEAN) toured the NCCTRC Disaster Warehouse for a briefing on the regional response capability. The countries represented included Malaysia, Brunei, Singapore, Cambodia, Thailand, Vietnam, Myanmar, the Philippines and Indonesia.

The Association of Southeast Asian Nations (ASEAN)

Established eighth of August 1967 with the signing of the ASEAN declaration. It has 10 member states and includes a treaty and charter providing a foundation in achieving the ASEAN community with rules, values and targets for accountability and compliance. ASEAN members include, Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.
Australia has had a 40 year relationship with ASEAN which includes a range of dialogue, cooperation and appointed its first resident ambassador to ASEAN in 2013, underlining Australia’s strong commitment to deepen its engagement with ASEAN.

Of relevance to AUSMAT members, ASEAN and Australia have been working closely to strengthen the East Asian Summit (EAS) as a leaders-led forum for dialogue and cooperation on broad strategic, political, and economic issues of common interest and concern.

Australia was active in EAS cooperation on disaster management and public health. In 2014, Australia and the Philippines proposed an “EAS Statement on Rapid Disaster Response,” which was adopted by the 9th EAS on 13 November 2014.

Australia and Indonesia delivered the third and final workshop in June 2015 on rapid disaster response under the 2011 EAS Statement on Disaster Response to finalise a toolkit to help disaster response agencies prepare for natural disasters. Australia. On invitation from DFAT the NCCTRC have sent a representative to the last two meetings and contributed to the development of the toolkit.

Timor-Leste Bombeiros Train with the NT Fire Service (NTFRS)

The NCCTRC was pleased to strengthen ties with the Bombeiros from Timor-Leste on Thursday April 7. The Bombeiros - who hail from various fire stations across Timor-Leste - were accompanied by the Timor-Leste Director of Civil Protection and the project manager from the National Disaster Management Directorate.

They were visiting Darwin for three days to view NTFRS facilities and communication systems; take part in training exercises and disaster preparedness; and discuss a future training schedule with the NTFRS.

The visit comes off the back of the recently signed Memorandum of Understanding between the Northern Territory Government and the Democratic Republic of Timor-Leste, and their respective Fire and Emergency services. The MoU will develop a long-term sustainable relationship with the aim of increasing the capability and capacity of both parties.
The world of disaster response has many important and significant contributors. The following represent just a handful of our key state AUSMAT members who are supporting the development of personnel, deployment and capability. Each quarter we will select representatives to share with you their amazing achievements and what strengthens AUSMAT’s ability to deploy.

MR Mark Cannadine (SA)
Director Emergency Management, SA Health

Mark has over 25 years’ experience in emergency operations in both Policing and Health and was part of the UK Disaster Victim Identification team in Phuket Thailand following the Indian Ocean tsunami. Mark’s provided advice and support to Health Services across Australia and on behalf of the WHO global centre for mass gathering medicine.

Mark is currently the Director Emergency Management with SA Health, a member of the AUSMAT national working group and deputy chair of the National Health Emergency Management Standing Committee. Mark was part of the AUSMAT team deployed to Fiji following Cyclone Winston, as an advisor to the Ministry of Health Emergency Operations Centre.

Mark can be contacted on mark.cannadine@sa.gov.au

MS Sam Poke (WA)
Senior Policy Officer, WA Disaster Management Regulation and Planning Directorate, WA Health

Sam Poke is a Senior Policy Officer in the Disaster Management Regulation and Planning Directorate at WA Health. She has a background in nutrition and dietetics and has worked on a range of public health initiatives including men’s health, seniors health, and rural community nutrition. Sam has worked in Vancouver, London and done volunteer health work in Myanmar.

Her current role includes the AUSMAT WA and Urban Search and Rescue Dr portfolios, along with special projects for the Public Health Division.

Sam can be contacted on 08 9222 4337 or at ausmat@health.wa.gov.au
DR Ron Manning
ASM (NSW)
Executive Director Health Emergency & Aeromedical Services & NSW State Health Services Functional Area Coordinator (HSFAC)

The State HSFAC is responsible for NSW Health in the emergency management context. In the event of an incident or major disaster that requires state level coordination, the State HSFAC assumes control of all NSW Health resources.

The State HSFAC is responsible to the Minister for Health through the Secretary for ensuring that appropriate arrangements are in place for the management of health emergencies, including arrangements for prevention, preparation, response and recovery.

The Office of the State HSFAC is also the NSW point of contact for all requests for assistance from other jurisdictions or the Commonwealth in relation to AUSMAT. Dr Manning has significant experience in international deployments, having personally deployed to Bali and subsequently organising teams for deployments across the Pacific.

Ron can be contacted at hemu@ambulance.nsw.gov.au

DR Rob Cardwell
(QLD)
Clinical Director (South), Retrieval Services Queensland

Rob is an emergency physician whose day job is Clinical Director of Southern Operations for Retrieval Services Queensland.

He has previously deployed to Christchurch, the Philippines and most recently to Fiji as Team Leader for Team Bravo 2 as well as to the Tour de Timor as both Team Member and Medical Team Leader. Rob continues to provide clinical and teaching support to the NCCTRC under the QLD agreement.

In his spare time, he can be found embarrassing his teenage kids by singing like no one else can hear him and banging his head against the wall following the Queensland Reds.

Rob can be contacted on 0421 637 285 or at Rob.Cardwell@health.qld.gov.au

ASSOC. PROF
Alison McMillian
(VIC)
Director Emergency Resilience Emergency Management Branch, Chief Nurse & Midwifery Officer, DOH

Associate Professor Alison McMillan has more than 30 years experience as both a clinician and an executive in the healthcare sector.

In her role as State Health and Medical Commander and as the Director Emergency Resilience in the Department of Health and Human Services Victoria, Alison contributes towards a vision of safer and more resilient communities, through minimising the impact of emergencies on the health and well-being of communities and individuals, especially the most disadvantaged and vulnerable.

Alison may be contacted on alison.mcmillan@dhhs.vic.gov.au

MR Duncan Jones (TAS)
Manager, Emergency Preparedness with the Tasmanian Department of Health and Human Services.

Duncan has over ten years’ experience working in health and human service-based emergency management and is the current Tasmanian member of the National Health Emergency Management Standing Committee and the AUSMAT Working Group, and is responsible for statewide coordination of AUSMAT capability development, education, training, and deployment management including the AUSMAT deployments to the Philippines in 2013 and Fiji in 2016.

Duncan can be contacted on 03 6166 0409 or at duncan.jones@dhhs.tas.gov.au
IN THE NEXT EDITION OF THE QUARTERLY
- Timor HADR
- Fiji MIMMS
- Timor Training
- AUSMAT Geisha's in Japan
- WEBEOC Training, Victoria May 2016
- Indonesian Exercise
- The Governor of Bali
- Decontamination Shelters
- Heavy Metal