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Task Force Flood Assist

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1300MEDICS

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Abstract

In March 2022, northern New South Wales experienced the largest flooding yet recorded. Social media and TV footage showed confronting images of the extent of the loss and suffering of communities. 1300MEDICS, a provider of medical services for public and private events in Australia, responded during the recovery stage. It volunteered a private mobile health response team similar to the public sector mobile health response teams described within disaster plans (NSW HEALTHPLAN, QHMCIPLAN, EMPLAN 2022). This was called Task Force Flood Assist.

Introduction

1300MEDICS provides medical care for hundreds of organisations each year covering mass gathering music festivals, stadiums, professional and extreme sporting events, worksites and filmsets. It employs registered nurses, nurse practitioners, paramedics, doctors and first responders with backgrounds in emergency, critical care and retrieval medicine.

The Task Force Flood Assist mobile medical response to the northern rivers floods was an opportunity to describe and critique the deployment of a highly trained medical service during extraordinary times. The response highlights the benefits of medical expertise, operational readiness, available equipment, communication capability and command-and-governance structure delivered by an organisation with proven expertise in crisis and disasters. This paper provides insight into the author's experience as the medical commander during the response and captures the clinical and logistical challenges the team endured and overcame.

Operation during the flooding

The floods were broadcast as catastrophic, with over 30,000 people across 18 local government areas given evacuation orders. Many people chose not to leave, perhaps dubious the flood would not be any worse than previous floods in the area (Australian Bureau of Meteorology 2022, ABC News 2022, NSW SES 2022). The severity of the event left communities devastated, causing widespread damage to infrastructure including health facilities, homes, businesses, schools and roads. Communities experienced disruptions to essential utilities, food supplies and health care. Livestock and domestic animals were missing and, tragically, human lives were lost. Families experienced disruption to their routines as they attempted to salvage their homes and belongings or care for their animals. In such circumstances, people sustained lacerations, had bacteria-consumed wounds, missed their regular medications, forfeited routine health checks and may have been exposed to hazardous conditions as well as experienced mental and emotional turmoil.

In collaboration with the NSW Local Health District Health Services Emergency Operations Centre, Task Force Flood Assist (taskforce) became a private mobile medical response team that could bridge the gap between flood victims and essential and vital health care. It was identified that these people were unable to access health care due to physical displacement or immobility, fear of leaving their homes due to the risk of looting, were unable to care for livestock, wanted to stay with their families and communities to aid the clean-up or had minimal to no functional health facilities in the area.

Many of the Northern NSW health care workers were affected by the floods; several had already responded and volunteered in their home towns and were now physically and mentally unable to attend their regular shifts due to ongoing displacement and fatigue. This led to workforce shortages.

> *I made some phone calls and was able to get in direct contact with the Local Health District Health Services Functional Area Coordinator for Northern NSW and liaise directly with her to gain a full understanding of what, and where, the health need was so that we could use our time efficiently*

and strategically. I understood it was important to gain permission and authorisation from the coordinator and the committee so we could enter the disaster-declared regions. It gave the taskforce the legitimacy and creditability [sic] to achieve our objectives.

Medical Commander

The objectives were to reduce the numbers and burden of unnecessary presentations to local hospitals and decrease the risk of ambulance 'ramping' or the need to engage state emergency retrieval services. The taskforce's method was reactive, with advanced life support and resuscitation capabilities for preventative and primary health care. The health specialists within the taskforce understood flood disaster epidemiology and the indirect health effects it can have on a community. This knowledge underpinned health promotion during interactions with casualties and their families. The team was focused on the increased threat of exacerbation of chronic health conditions, diagnosing newly presenting health concerns, and the increased susceptibility of casualties succumbing to flood-related wounds from exposure to hazardous materials.

The team acted to improve the health literacy of residents to prevent a deterioration of any current illness and bridge gaps between patients who were dislocated from their usual general practitioner and primary health care facilities. This is previously reported as an area for improvement in the *Royal Commission into National Natural Disaster Arrangements Repor*t (Commonwealth of Australia 2020). Part of this included replacing and resupplying important medical equipment and prescription medications. The taskforce health care effort was specialised to each casualty.

Our main area of operation was the town of Coraki in NSW. The whole town was swallowed up by flood water. I'll never forget the frenzied scene crossing the Swan Bay Rd bridge, with raging brown rapids of the Richmond River underneath us. It was getting dark as another thrashing from Mother Nature was impending. There was flashing emergency lights everywhere, convoys of Australia Defence Force bushmasters, Rural Fire Services engines rumbling down the mud-ridden roads, generators whirring, radio chatter, boats roaring beneath us, military-style foot patrols conducting welfare checks, dishevelled and shattered Coraki residents everywhere. It was heartbreaking. Coraki had only just been accessible by road hours earlier after being cut off for days; the locals finding refuge in the evacuation centre, and a makeshift medical space staffed by volunteer locals.

Medical Commander

When water receded in the township of Coraki it left filthy, putrid mud that was ridden with waterborne bacteria and waste. NSW Health released information about the risks of Leptospira bacteria as cases were predicted to increase following the flooding. The risk also increased for people who had contact with animals or were exposed to water, mud, soil or vegetation that had been contaminated with animal urine (NSW Health 2022). The taskforce teams cleaned and dressed dozens of unpleasant wounds and administered tetanus vaccines. We regularly consulted with the on-call doctor who remotely supervised the administration of tetanus vaccinations and the prescription of antibiotics. A lower threshold test was applied due to increased risk from the flood-affected environment and the improbability of timely follow-up from other health services.

We had heard awful recounts from people resorting to drinking floodwater, wading chest-deep without footwear through murky freezing water, banging and slicing up their legs and feet on submerged objects; their bodies now covered in lacerations and wounds. I had also witnessed dead animals strewn everywhere.

Medical Commander

The team applied the 1300MEDICS endorsed protocols and procedures for the administration of medications and medical interventions performed. Many team members had extensive experience working in prehospital environments, some with emergency services experience, former military or critical care experience and all with an understanding of the Major Incident Medical Management and Support (MIMMS) principals.

The taskforce operations followed the '7 Key Principles of the All-Hazard Approach' described in MIMMS. The principles are Command, Safety, Communication, Assessment, Triage, Treatment and Transport (CSCATTT) (MIMMS 2022). Each principle is discussed in more detail below.

Command

The taskforce team had a medical commander on location who oversaw the execution of medical requests while maintaining the team's objectives. They gained and maintained inter-agency relationships and collaborated regularly about achieving goals. Extreme weather events, in all phases, often required a significant and coordinated multi-agency and community response (COAG 2002).

Safety

A risk assessment was conducted for each task that was received. The team applied the 1-2-3 Code of Safety; Self (personal safety), Scene (environmental safety), Survivors (decontamination and management of exposure to hazards) (MIMMS 2022). Personal safety was prioritised. Team members wore the 1300MEDICS operational uniform and name tags for identification as well as branded high-vis yellow vests. Teams suppled their own protective equipment, food, water and transport (often 4WDs). Life jackets were mandatory if boarding boats. Teams always worked in pairs and carried a radio. The taskforce was intended to be robust, self-sufficient and provide all medical equipment and consumables. The scene was continually scanned to ensure safety. This included situational awareness of moving flood waters, road closures, driving conditions and updating the commander of their location. Permission to enter private property was negotiated with occupants to ensure they

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understood and welcomed the assistance offered and did not feel further threatened or disempowered. Teams were conscious of roaming and injured animals becoming frightened and volatile. Reports of crime, such as domestic violence and looting, prompted the teams to be cognisant of their safety. Rendezvous points were established daily and means of egress discussed.

Communication

The teams were provided with communication radios and radio checks were conducted throughout the day. Taskforce radio channels were supplied to other agencies working in the local areas. Teams kept in contact via text or WhatsApp services. In the event of an emergency, the teams called triple zero and provided a situation report to the medical commander at the earliest time.

Assessment

Northern NSW was a declared disaster area throughout March 2022 and the environment was unpredictable and constantly changing. There was a high level of stress and emotion among community members and their families, volunteers and response agency personnel. Requests for medical support were received and triaged by the taskforce medical commander and allocated according to clinical needs, safety considerations, the multi-agency command post requests and priorities, time constraints and available resources (e.g. flood boats and helicopters).

Triage

Mass Casualty Incident triage, or Australian Triage Scale (ACEM 2022) was not exclusively applied during the recovery phase; rather, an assessment was conducted to determine if casualties were safe to stay in-place to receive their treatment and follow-up. The goal was to keep flood-affected people in place for as long as they were safe and thus reduce the impact on local hospitals. The mental and psychological health of people and their safety were measured and the mental health triage scale was considered (Queensland Health 2022). The taskforce arranged reviews of wounds and low-acuity illnesses. The medical conditions of all unwell or unsafe patients were discussed with the medical commander or the 1300MEDICS general practitioner to discuss transfers to a health facility for ongoing care.

Treatment

The skills and expertise offered by the teams were extensive. The expectation was that a large number of patients would require primary health care and low-acuity medical treatment. The Royal Commission into Natural Disasters (Commonwealth of Australia 2020) reported that the main point of contact that people in Australia have with the health system is through primary health providers and networks. The taskforce was adaptable and resourceful in finding solutions that were consistent with best medical practices and evidence-based care.

Transport

Due to ongoing flooding and difficulty accessing patients, transport for team members to treat patients was via boats, helicopter, 1300MEDICS ambulance 4WDs or by foot. The situation regarding patients who required transport to a health facility was discussed with the medical commander in relation to the suitability of transport methods and if emergency services agencies were required, versus transport by private means.

> *I received an email from the Northern NSW 'Local Health District Health Service Emergency Operation Centre' advising us the Department of Communities and Justice was closing the Coraki evacuation centre and our ongoing presence was requested. The following morning our arrival into Coraki was welcomed with relief by agencies and locals, and we were soon requested to board SES and volunteer boats to venture up the Richmond River to stricken and marooned farmers whose properties were still cut off from road access. I split our mobile medical team among the boats to cover a larger footprint and reach everyone we could in that time. The river was eerily quiet. It was filthy brown with debris everywhere, deceased animals. Occasionally a helicopter would fly over with an empty rope dangling; a sign of the continuing hay bale drops to stranded animals.*
>
> Medical Commander

Challenges

Clinically, some of the challenges faced were the storage and administration of tetanus vaccinations. Transport, according to the Australian Immunisation Handbook (Department of Health 2022), recommends storage of tetanus at +2°C to +8°C. Solutions were to ensure that refrigeration was available and that a registered nurse was attached to each team to administer vaccines. The taskforce also collaborated with NSW Health to ensure the resupply of vaccines was available.

Effective communication is usually a challenge during the response phase, whether it is from loss of telecommunication services, ever-changing conditions and objectives or changes in local government agencies and their command location and staff (MIMMS 2022, Pourhosseini, Ardalan & Mehrolhassani 2015). The recovery phase of floods lasted many weeks and, by then, many staff from government agencies who had been working during the response phase were exhausted and mandatory fatigue management practices were applied. Logistically, communication was problematic for the taskforce due to the constant changing of response agency commanders and their location. This proved difficult in maintaining momentum and precious time was spent identifying the lead response agency and its commander each morning.

> *We were proactive in continuously seeking out medical jobs and tasks, either by way of formal chains with agencies on the ground like the Australian Defence Force, SES, RFS or via volunteers manning community hubs. We scrolled social media platforms and local groups. We even door knocked and roved in flood-stricken areas. There were times teams would send a tactical mobile medical group*

that would attach to SES response boats or helicopters, or convoy with Australia Defence Force bushmasters and the police to conduct welfare checks. I would screen and vet all jobs for appropriateness and safety before tasking mobile medical teams to assist. Logistically, it was challenging with unpredictable terrain to access patients. Some families were surrounded by floodwater for days and weeks, marooned on their properties and often the safest entry was via helicopter or by boat.

Medical Commander

An after-activity report showed that the taskforce was able to treat and manage over 130 patients during its 10-day deployment. Treatments included wound care, administering tetanus vaccines, filling prescription medications, supplying medical devices, conducting welfare checks and undertaking patient wound reviews. Patients with extra needs were identified and referred to appropriate community services organisations, such as aged care, for ongoing support.

The challenges faced were clinical and logistical in nature and have been discussed and continue to be examined for improvements. The overall success of the taskforce was a combination of its preparedness and its clinicians' abilities to respond to a crisis at short notice, to be operationally ready and self-sufficient as a strategic operational deployment force with established objectives. The taskforce provided skilled health clinicians who followed credible and evidence-based clinical governance structure and who could adapt to the dynamic situation. The taskforce could also supply its own medical equipment, consumables and medications and had its own means of communicating.

Acknowledgment

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Kate Carmody was the creator and medical commander of 1300MEDICS Task Force Flood Assist 2022. Kate works as a Clinical Nurse and operations supervisor for 1300MEDICS. She specialises in critical and prehospital health care and disaster medical response at the Gold Coast University Hospital in the Emergency Department. Kate sits on the board of 1300MEDICS Clinical Advisory Group, which oversees and advises on the standards and procedures regarding clinical governance within the company.

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