

**Conclusion:** The daily team leader report was considered critical to understanding how each team member was responding to the environment during the TC Winston response. It prompted strategies to manage heat and hydration prior to the manifestation of serious symptoms. Such information also contributed to our knowledge of the AusMAT member workloads, assisting to prepare teams for future deployments.<sup>1</sup> Brearley M, Ruskie S. Development of a Disaster Nurse Well-being Instrument. *Prehospital and Disaster Medicine* 30(1): s116

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### Canada Task Force 2 Medical Team Deployment to the Fort McMurray Wildfire

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**Study/Objective:** To provide a review of the Canada Task Force 2 (CAN-TF2) medical team deployment to the 2016 Fort McMurray wildfire (FMMW).

**Background:** The FMMW displaced over 80,000 citizens and destroyed over 1,600 structures, making it the most economically devastating natural disaster in Canadian history, with a cost of over 9 billion CDN (6,834 billion US). CAN-TF2, an all-hazards disaster response team, was deployed to this disaster. Since its inception in 2002, the team has deployed in Alberta during the Slave Lake wildfires (2011), and the Calgary/High River floods (2013). The medical unit of CAN-TF2 engaged in its first active deployment during the FMMW. This team was designed to provide medical care for CAN-TF2 members and was comprised of paramedics, nurses, and physicians. During this event the teams scope was expanded, as it developed the only medical facility in the FMM vicinity.

**Methods:** A narrative review of the FMMW deployment that focused on lessons learned from the medical team standpoint, along with descriptive epidemiology of the patient encounters.

**Results:** Themes discussed included: (1) the development of a field hospital to support those beyond the CAN-TF2 team, which encompassed first-responders and critical infrastructure employees; (2) undertaking chronic disease management; (3) the fostering of relationships with other provincial agencies that allowed access to medical transport and critical medical supplies; (4) the integration of a critical incident stress-management team that addressed the mental health needs of first-responders; (5) the monitoring of public health markers and advocacy for actions within the incident command structure, that ensured the safety of the first-responders and self-deployed volunteers; (6) the transition from a CAN-TF2 field hospital back to a government facility run by the local medical community in FMM.

**Conclusion:** The medical team capacity within CAN-TF2 continues to evolve, and the FMMW deployment has highlighted a number of strengths and areas requiring further development.

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### Fit for Duty? The Case for Disaster Responder Fitness Standards

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**Study/Objective:** To mitigate the risk of disaster responders suffering heat illness through physical fitness standards.

**Background:** Recent Australian Medical Assistance Team (AusMAT) deployments have encountered challenging environmental conditions, heightening the risk of heat stress impacting responders. Two intrinsic factors increasing the risk of heat related illness are inadequate heat acclimatisation and lower levels of physical fitness. Pre-deployment heat acclimatization guidelines have been developed for disaster responders<sup>1</sup>, yet commensurate standards are not available for fitness. Furthermore, the physiological impost of responding to disasters in hot and humid conditions are poorly characterized, limiting the development of evidence based standards.

**Methods:** A literature review of emergency responder fitness standards was conducted. Assessment of disaster responders was undertaken according to Brearley et al. (2013)<sup>2</sup> during construction of an EMT2 facility in hot and humid conditions to determine physiological and perceptual responses.

**Results:** Fitness standards are common among law enforcement and civilian protection agencies, generally incorporating running to volitional exhaustion. There were no reports of fitness standards for medical disaster responders in the peer-reviewed literature. Establishing an EMT2 facility in hot and humid conditions resulted in prolonged elevation of heart rate, core temperature, and physiological strain accompanied by body temperature perceptions of warm to very hot.

**Conclusion:** Based upon the physiological responses of disaster responders establishing an EMT2 facility in hot and humid conditions, assessment of disaster responder fitness is warranted. Reflecting the lower physical demands compared to law enforcement and civilian protection agencies, and age range of potential disaster responders, submaximal fitness tests should be prioritized.

#### References

1. Brearley M. Pre-deployment heat acclimatization guidelines for disaster responders. *Prehospital and Disaster Medicine* 31(1):85–89, 2016.
2. Brearley M, Heaney M, Norton I. Physiological responses of medical team members to a simulated emergency in tropical field conditions. *Prehospital and Disaster Medicine* 8(2):139–144, 2013.

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### Earthquake in Amatrice (Italy), August 24, 2016: The Role of the Medical Teams of the National Alpine Rescue Corp (CNSAS)

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**Study/Objective:** The Mountain and Speleological Alpine Rescue Corp (CNSAS) is a voluntary corps diffused in all of Italy, expert in hostile environment rescue missions. The study is a report of the first medical teams deployed in Amatrice.

**Background:** After the first shocks of the earthquake in Amatrice and Accumoli (August 24, 2016), the national Civil Protection activated the national disaster response and rescue teams of CNSAS and reached the affected areas under a national coordination. Expert teams on hostile and confined environments were recruited, search dogs and medical teams were recruited as well.

**Methods:** The immediate response (because of the deep diffusion of the Alpine Corp resources in this area) was realized by local and regional teams. A second wave of rescue teams arrived a few hours later. The teams were deployed in Amatrice, Accumoli, and 38 small villages in the province of Rieti. A helipad in Amatrice was used for Medevac operations. The farthest areas and villages were reached only with military helicopters support. Two main scenarios were faced: 1) inside the “red area”: supporting the rescue operation missions together with firefighters and police; 2) out of the “red area”: checking people with minor injuries and vulnerable categories. All the data was transmitted to the Crisis Unit in Amatrice and to the Command Control Chain of Civil protection.

**Results:** The experience showed the importance of:

- stockpiles and technological support;
- information and training on disaster medicine and basic procedures (triage and tracking tools);
- knowledge on tactical approach and tactical medicine;
- knowledge of the Command and Control Chain and of the Civil Protection disaster response.

**Conclusion:** The medical teams of the CNSAS are an essential resource to support, search and rescue missions after earthquakes. Their own role can be precious in the check and monitoring of the health needs of the people affected, inside the Civil Protection disaster response.

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**Lessons from the French Society of Disaster Medicine, Stratadviser Ltd and the West African Health Organization Collaborative Group during the 2014–2016 Ebola Outbreak**  
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**Study/Objective:** Ex-post evaluation of Relevance, Efficiency, Effectiveness, Impact, and Sustainability of recommendations elicited by the collaborative group during this period.

**Background:** Unlike more common epidemics in the three affected countries, such as malaria (over 2,650,000 cases/year) or tuberculosis (close to 32,000 cases/year), the Ebola outbreak (around 24,000 cases/2 years) paradoxically undermined the conditions of cohesion, integrity, security, functioning, and existence of health systems and beyond the economies of the Economic Community of West African States (ECOWAS). Therefore, the collaborative group disaster medicine experts analyzed socio-economic and historical insights, and epidemiological data and field practice

observations to come up with specific recommendations on the design of Humanitarian, Health, and Economic Corridors (H2EC). This is intended to limit the spread of a virus that contaminates and disseminates progressively thanks to population movements, while promoting the movement of this population.

**Methods:** Due to the international nature of potential applications of the H2EC concept and design, the collaborative group followed the methodology for Center of Excellence (CoE) project evaluation, used by the European Commission, namely the Logical Framework Approach (LFA).

**Results/Conclusion:** The positive post-evaluation of the economic corridors design teaches broad lessons applicable to other disaster medicine situations.

<b>To date</b>	
Relevance and quality of design:	Comprehensive, regarding geographical environment, socioeconomic constraints, population natural behavior, and public health requirements.
Efficiency of implementation:	Scaled to local/regional scarce health care workers/assets resources.
Effectiveness:	Actually limit population displacement while allowing nearly normal socioeconomic activity.
Impact prospects:	Positively bear upon population resilience.
Potential sustainability:	Could be easily reactivated, but will still require external support to some extent.

**Table 1.** Assessment of Humanitarian, Health and Economic Corridors according to the Logical Framework Approach.

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**Emerging Issues of Withdrawing the DMAT Headquarters, Kumamoto Earthquakes of 2016**

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**Study/Objective:** Clarify the issues of withdrawing the Disaster Medical Assistance Team (DMAT) headquarters.

**Background:** It is essential that DMATs have to hand over management to the right organizations at the right time. That is why DMATs Headquarters must be withdrawn smoothly. Kumamoto earthquakes 2016 in Japan, DMATs were dispatched on April 14 to the stricken area and concluded activities by April 23. Our team had orders to manage the biggest local headquarters and to close it down. However, withdrawing was so tough on the front line due to newly emerging issues; there has been little experience in withdrawing the big headquarters.

**Methods:** Five emerging issues were extracted as follows: (1) Confusion on determination how and when the DMATs hand over management to other organizations. (2) Difficulties on choice of DMATs staying behind until the very end. (3) Impediment by the remaining equipment that DMATs