

Environmental Health & Emergency Medical Teams

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Aims

- Outline the Emergency Medical Team initiative and critical elements of Environmental Health support

**Rescue teams deployed
to earthquake**

**TV crew first into tsunami
epicentre**

**Bureaucracy
hampers
relief efforts**

Facebook medics request volunteers

**Local staff shut out
of their own hospital**

**Emergency teams
stuck at airport**

**Needs still unmet
in remote areas**

Relief teams run out of supplies

The problem

- Self-deploying adhoc teams
- Interconnectedness, globalization, urbanisation, crowd sourced news and social media
- Coordination and delivery of effective, ethical and appropriate assistance
- Haiti *“if the impact was unprecedented, the organization of the response was not. It followed the same chaotic pattern as in past disasters the humanitarian community failed to put in practice the lessons learned”*
- Teams unlikely to arrive and become operational during initial trauma period
- Inappropriate interventions, lack of registration, lack of records of treatment, operation outside scope of practice and lack of post operative care and rehabilitation emerging

2010 Haiti EQ

- 44 FFH from 18 middle and high income countries
- 300 smaller mobile medical teams
- Majority of 2 and 3 hospitals destroyed/damaged

2013 Philippines Typhoon Haiyan

Haiyan

- 83 Foreign Medical Teams registered on arrival
- 151 EMTs deployed and engaged in coordination
- 193,000 consults

2015 Nepal EQ

- 149 EMTs registered

2006 Aceh, Indonesia EQ /Tsunami

- HCF <25%
- +7000 serious injuries
- Day 15 no more FFH required, continued to arrive until D20
- Lack of coordination "It was a matter of guesswork which facility had beds or surgical capacities available".

2014 Ebola outbreak

- 58 EMTs and over 1000 staff support clinics, isolation and treatment capacity

2015 Vanuatu TC Pam

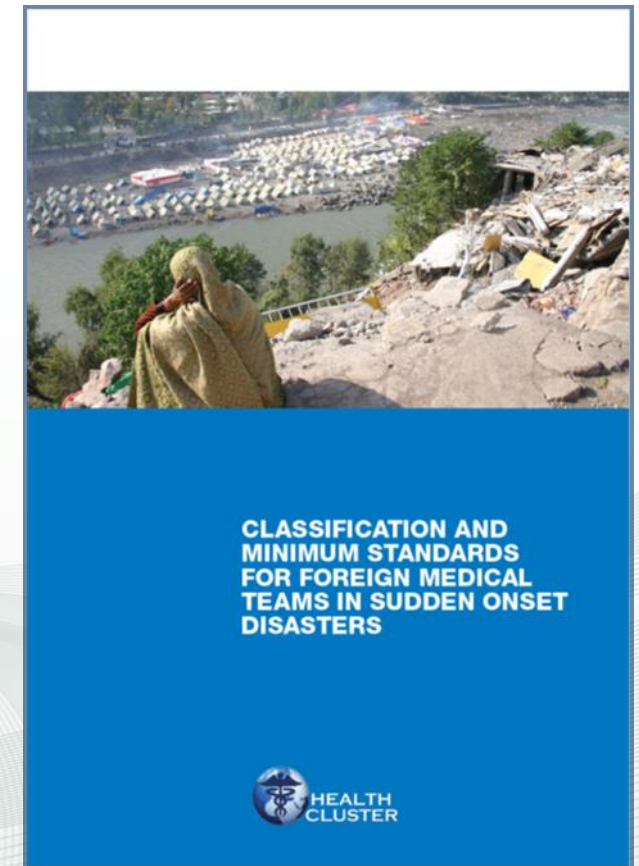
- 50% pop affected
- 28 EMTs deployed
- 169 international staff

Emergency Medical Teams

- *refer to groups of health professionals and supporting staff aiming to provide direct clinical care to populations affected by disaster or outbreaks and emergencies as surge capacity to support the local health system. They include governmental (both civilian and military) and non-governmental teams and can be sub-classified as either National or International dependent on area of response*

Minimum Standards- what benefit?

- Core standards
 - Self sufficiency means **less burden on the affected ministry and population**
 - Teams are registered and **trained for disaster response**, making authorization to “medically practice” faster
- Technical Standards for Type of team
 - Surgical- Performance of **surgery in non-surgical facilities is unsafe and unacceptable** (*even in disaster, if by those who have just arrived specifically to help in a disaster*)
 - **Anaesthetic**- safe anaesthesia and pain relief: a **basic human right**
 - Logistics- Teams arrived **capable of performing the level of care** that they declared
 - Team and field facility standards: **teams deserve a safe deployment** and to **not suffer injury or illness** during their mission



FMT Core Standards

- **Agree to register with the relevant national authority** or lead international agency on arrival and collaborate with inter-agency response coordination mechanisms at global, national and sub-national levels, as well as with other FMTs and health systems.
- Will undertake to report on arrival what type, capacity and services they can offer based on the international FMT classification system
- Will undertake to **report at regular** intervals during response, and prior to departure, to the national authorities and the cluster, using national reporting formats, or if not available, the agreed international reporting format.
- Will undertake to keep **confidential records** of interventions, clinical monitoring and possible complications.
- Will undertake for the individual patient, to have **record of treatment** performed and referral for follow-up planned as needed.
- Will undertake to be **part of the wider health referral system**, and depending on type, offer to accept or refer or both accept and refer patients to other FMTs, the national health system or, if approved, other countries.
- FMTs will adhere to professional guidelines: all their staff must be **registered** to practice in home country and have **licence for the work they are assigned to by the agency.**

FMT Core Standards (2)

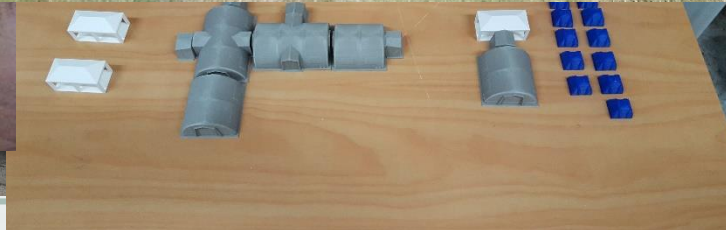
- FMTs will ensure that all their staff are specialists in their field, **appropriately trained** in either war or sudden onset disaster surgical injury management. The majority should be experienced in global health, disaster medicine and providing care in austere environments.
- FMTs will ensure that all **pharmaceutical products and equipment** they bring **complies with international quality standards and drug donation guidelines.** http://www.who.int/medicines/publications/med_donationsguide2011/en/index.html
- FMTs are **self sufficient** and not put demand on logistic support from the affected country, unless agreed otherwise before deployment.
- FMT comply with **minimum hygiene and sanitation standards**, including adequate management of medical waste.
- FMTs must ensure the team and individuals are covered by adequate malpractice insurance, and have a mechanism to deal with complaints and allegations of malpractice.
- FMTs must have **arrangements in place for the care of their team members health and safety.**

EMT Typology

Type 1 M Outpatient care	50 o/p consults per day, 14 day self sufficiency, 2 week minimum deployment
Type 1 F Outpatient care	100 o/p consults per day, 14 day self sufficiency, 4 weeks minimum deployment
Type 2 IN patient surgical	100 op consults per day, 7 major / 15 min in-patient surgical cases, at least 20 inpatient beds : 1 OR,
Type 2 Outbreak	In-patient communicable disease outbreak, modular units of 20 beds c. 100 bed ETCs
Type 3 Referral	In-patient specialist referral
Specialist cell	Self sufficient with regard to the consumables and specialist equipment required for their role



What does an EMT look like?



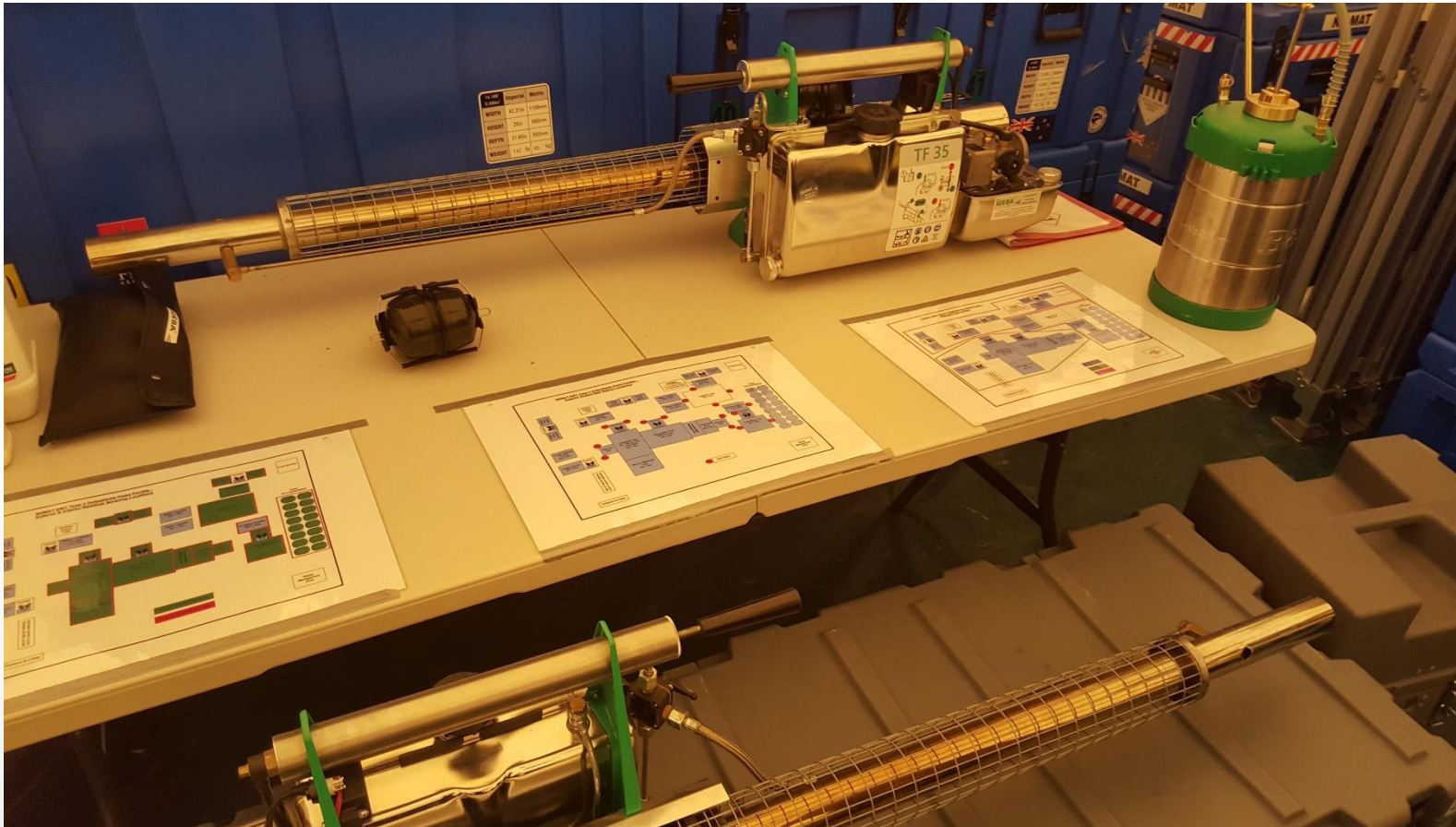
What are the links with environmental health?



Env Health considerations

1. Deployment of fixed or mobile clinical facilities
 - Ongoing Vector Control
 - Protection of national and international staff
 - Protection of patients and family
 - Protection of wider population – risk of disease amplification
 - Significant Potable Water requirement
 - Waste Management
 - General, Clinical and pharmaceutical waste streams
 - Dangerous Goods and Hazmat
2. Technical support to Min Health / EMT Coordination Cell

Integrated vector control plans



- Context specific
- Upskilling EMT logisticians
- Engagement of local workforce
- Pre-deployment readiness
 - DG dangerous goods
 - Training

Potable water generation

- Outpatient fixed facility c. 3000 lts per day
- In patient surgical +10,000 lts per day
- Contingency planning
- Source identification; salt water / fresh water
- Treatment plan
- Quality control and sampling regime
- Raw water and fuel requirements

Minimum Quantity Requirements





NZMAT Personnel	100 litres / day
Outpatients	10 litres / day

Quality Objectives

Free Residual Chlorine (FRC)	<ul style="list-style-type: none"> ▪ 0.2 – 0.5 mg / l – if pH < 8 ▪ 0.4 to 1.0 mg / l – if pH > 8 ▪ Measured at furthest distribution point
Turbidity (NTU)	<ul style="list-style-type: none"> ▪ <4NTU – satisfactory level ▪ 1 NTU - optimum level
Total Dissolved Solids (TDS)	Between 200 and 600 mg / l
pH	Between 7.0 and 8.0 – desirable
Low concentrations of compounds that are acutely toxic or have serious long term effects	Context specific; in case of doubt consult with WHO Water Guidelines

WASH, Waste Management, Morgue



Type of Waste		
Sharps	  	Puncture—proof container
Pharmaceutical waste		Plastic container
Single-use Disposal Instruments		Plastic container
General health-care-black waste		Plastic bag



NZMAT Environmental Health Planning

- Part of staffing matrix
- All of Govt capability – NZDF Support
 - Southern Katipo 17
- Multi-disciplinary NZMAT command team
 - MOH, Clinical, Logs, EH/PH
- Assessment informs NZ and Host government
- Tonga 2018, joint civ mil deployment → support to Dengue / vector response

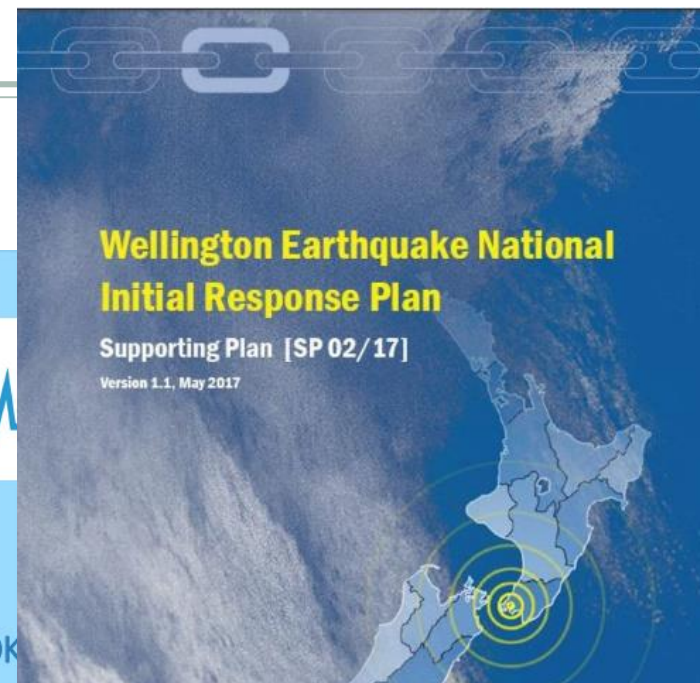


Outbreak response



New Zealand response planning

- Wellington, Alpine Fault, Hikurangi subduction zone
- Coordination and management of incoming EMTs
- Compliance with minimum technical standards
 - WASH
 - Waste Mngt
 - EH controls
- Development of NZMAT EMT Coordination Cell



Conclusions

- EMT initiative enhances effectiveness and efficiency of acute medical responses
- Minimum Technical Standards have multiple Environmental Health dependencies
- EMTs are complex facilities with high operational EH demands
- EMT Coordination - Capacity building within Ministries of Health
 - IHR Core Capacity
 - All hazards lens
- Environmental Health key leadership role
 - Support to training and SOPs critical for team development
 - Multi disciplinary practitioners

**Many thanks,
Questions?**



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