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Greater Sydney Area HEMS Response to Sydney Terror-Related Multiple Casualty Incident Discussion Paper

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Background

Terror-related mass casualty incidents have occurred in many major cities around the world with increasing frequency in the past 12 months. Sydney is a high profile target for international terrorism with multiple soft targets and large civilian/tourist gatherings. The CBD is the most likely target though other parts of Sydney are potential targets.

NSW Health/Ambulance has developed an “All Hazards” major incident plan which necessarily doesn't focus on the specific requirements of terror-related incidents.
Good planning has been described as the key to rapid and effective prehospital responses in other countries particularly the UK and France. Prehospital Medical Teams were widely used in both countries and widely praised as essential elements to the success of their nations prehospital response.

Learning Points from Previous Incidents

A wide range of terror/mass casualty violence events have occurred in the past with many learning points for current operations.

- During “Active Shooter" Incidents responding paramedics/medical teams have a high likelihood of needing to be responded to areas with some “residual risk”. Awaiting an “all-clear” to respond can take many hours and severely hamper medical management or evacuation of victims. Concept of “Enter, Evaluate and Evacuate’ in warm zones.

- Basic management of bleeding key to improving survival in mass shootings but often not done well – shortages of purpose-made tourniquets, haemostatic gauze, military bandages etc.

- Significant benefit of experienced clinicians making dynamic, nuanced triage to avoid high levels of over/under triage. (Ref Utøya, Dark Knight Cinema, Paris)

- Second-wave event or site likely – prepare further resources as soon as practicable.

- Triage along standard SMART Triage may not be best option for some incidents – Eg in Paris 2015 all patients with cranial gunshot wounds were triaged as expectant and not transported initially.

Learning Points from Terror-related Exercise May 31st

Dr Rob Scott nicely summarised the learning points from the recent exercise in a blog post (at least those which were suitable for a wider audience)…
https://sydneyhems.com

The main additional learning points for the group were:
- the situation required an experienced clinician to very rapidly ensure appropriate "anatomy of the scene response" and then drive the scene momentum more effectively.
- initial responding Medical Teams would benefit from additional cognitive aids to assist their roles
- Medical Teams not easily identifiable in standard yellow high-vis. This would be best corrected by choosing alternative colour tabards.

Expected vs Possible Events

Though a terror-related event could take any form from single attacker with a knife to multiple simultaneous coordinated attacks, there are some more likely scenarios based on recent incidents.

- Most likely to be a small number of highly motivated individuals willing to die for their cause
- Mixture of blunt and penetrating trauma
- Minimal or no warning
- Events lasting minutes to hours (prehospital phase) most likely but may generate protracted phase of interhospital retrievals

Benefits of Medical Teams at Mass Casualty Terror-related Incidents

Experienced Critical Care Physician-led Medical Teams have been highly effective force multipliers in several recent events including the Nov 2015 Paris attacks and 2005 London Underground Bombings and 2017 London Bridge Attacks.

The benefits of experienced Medical Teams include:

- Capable of high level decision making with broader system understanding
- Able to be the “Eyes and Ears” of HSFAC / Medical Controller in assessing the needs of scenes
- Ability to perform more nuanced and accurate triage (including use of ultrasound).
- Enhanced clinical capability employing equipment, techniques and skill-sets out of scope of NSW Ambulance paramedics eg rapid sequence intubation, intraosseous cannulation, ultrasound based body cavity triage, US guided cannulation, haemostatic gauze, Israeli bandages, maxillofacial haemorrhage control, prehospital surgical procedures, multimodality monitoring, blood and blood product transfusion, enhanced pharmacotherapy.
- Ability to deliver most effective analgesia in difficult circumstances
- Enhanced clinical assessment and understanding of injury patterns and requirements of in-hospital teams.
- Ability to affect situational momentum where Ambulance Commanders are not able to effectively generate flow through scenes.
- “Out of the box thinking” more likely to respond rapidly to unusual or overwhelming situations by creative use of resources such as alternative transport options.
- The current skill mix within GSA-HEMS represents one of the largest collective prehospital Medical Team experience in both blunt and penetrating trauma management in the world..
- With the change of Police Scene management and Siege tactics, there is potentially a higher likelihood for penetrating injuries to responding Police, and again, prehospital Medical Teams are best prepared to provide the highest medical support and treatment for this at risk group.
- in the recovery phase and inevitable coronial enquiry it would be difficult for NSW Ambulance to justify not utilising all resources particularly the most clinically capable units in the service.

How Best to Utilise Prehospital Medical Teams?

- Medical Commander Role

To make best use of Medical Teams a Medical Commander Role should ideally be activated as soon as possible in an event by the HSFAC. This may initially be a registrar as part of the initial response. All registrars have had specific training in major incident management during induction and the majority of them are Critical Care Specialists in their parent speciality. The first available Staff Specialist / DRC would take over this role where possible.

The Medical Commander pack on-base at Sydney Helicopter Base provides basic functional requirements for the Medical Commander role including tabards, documentation and independent communications. This pack could be enhanced based on feedback from the recent exercise.

- **Initial Tasking**

Early tasking through RLTC of all available teams with back-filling of teams by immediate Whispir Notification and selective staff call-ins.
Other Medical Teams tasked to the event would be expected to take up roles as Medical Commander roles at distributed sites, Casualty clearing station Officers, Rapid haemorrhage control teams etc.

Sydney Ambulance Centre should be considered for an alternative muster point for some incidents depending on security situation compared with Bankstown Base though additional logistics for restocking etc will be challenging.

- **Capability**

“In-hours” (typical Mon-Fri business hours)

- There are likely to be between 2 and 4 Medical Teams immediately available for tasking.
- There are likely to be between 2 and 4 medical teams immediately available in ACE doing cyclical training.
- Additional ad-hoc teams using DRC, Ops Support Paramedic, Paramedic Educators, Paramedic/Medical Managers will typically be available within 15 min.
- Whispir notification system likely to provide second tier staff within 75min in-hours.

“After-hours” (evenings/nights and weekends)

- After-hours there are likely to be between 1 and 3 Medical Teams immediately available for tasking.
- Whispir notification system likely to provide second tier staff within 60min to replace teams after-hours.

Several Whispr Notification exercises have been held in May and June 2017. The most recent after-hours exercise tested a Whispir Notification at 2015hrs and highlights the capacity to back-up on-shift teams:
Within 60min it would be expected that:

21 physicians (12 consultants/9 registrar) and 9 paramedics would be available. (Excluding staff currently on-base or having just completed shifts)

"Business as Usual"

It should be expected that some taskings to P1 prehospital and interhospital missions will continue to be needed during a terror-related event. This demand would be best managed by increased triage by ACC, networking of Wollongong, Orange, Newcastle and potentially CareFlight NSW Ltd HERRT until the activation of additional teams can be accomplished.

Some Considerations:

- Ideally at least one Retrieval Ambulance and one helicopter in Sydney be quarantined for Retrieval/Winching operations/second wave events. This can be accomplished by preferentially dispatching teams to the mass casualty incident by rapid responder vehicles/alternative transport.
- In a large incident two Medical Teams should be dispatched per vehicle (Retrieval Ambulance or Helo) initially (with additional equipment)
- 796 and 797 are available during 0730-1930hrs and on-call to return to base within 30min after hours.
- police transport may be available but NSW Ambulance vehicles unlikely to be accessible for transport.

It is possible to enhance the capability to respond to interhospital transfer requests stemming from the initial incident:

- using 2 (of 3) Fixed wing retrieval stretchers on MAT or mounted to Stryker stretchers for road interhospital missions
- using "spare" Monitors/Ventilators/Syringe drivers
- using legacy equipment/bridges.

Alternative means of securing equipment into standard road ambulances without bridges is feasible and planned for (such as when Medical Teams arrive on scene by helicopter but transport by road).

Current Work-streams Bankstown Base

In preparation for a Major Terror-related incident several work-streams are currently active. A Major Incident Resource folder has been created with a range of cognitive aids for teams

responding to Major Incidents. The initial drafts are undergoing broader consultation prior to finalisation.

Major Incident Resource Folder Contents

- **GSA-HEMS Major Incident Clinical Practice Standards**

- **Major Incident Medical Commander Kit Contents and Checklist**
- **Checklist for Major Incident Response (Minimum Gear)**
- **Minimum Checklist for Interhospital Retrieval in Bridge-Equipped Road Ambulance**
- **Minimum Checklist for Interhospital Retrieval in Standard Road Ambulance**
- **Contents/Locations Of Ballistics Packs (currently x4 containing tourniquets/Israeli Bandages/Haemostatic Gauze)**

- **Medical Commander Action Card**
- **Triage Officer Action Card**
- **Casualty Clearing Station Treatment Officer Action Card**