

# A strategy for improving emergency department response in disasters: Medical students as disaster volunteers

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## Introduction

- Civil disasters can produce mass casualties in a short time.
- Emergency department (ED) resources can be quickly overwhelmed
- Strategies are needed to improve ED surge capacity.



**Hotel New World Collapse:**  
15<sup>th</sup> March 1986,  
17 survivors, 33 dead

New Zealand, Christchurch  
mosque shootings  
15<sup>th</sup> March 2019  
50 Injured, 51 Dead

**Sri Lanka Easter bombings**  
21<sup>st</sup> April 2019  
500 Injured, 258 Dead

## Medical students to augment ED surge capacity

Duke-NUS Medical School is located in proximity (400m) to Singapore General Hospital's ED and represents an untapped manpower resource (250 students).

With appropriate training, medical students can be leveraged upon as ready and reasonably qualified manpower.

## Objective

### The WIN – WIN Solution

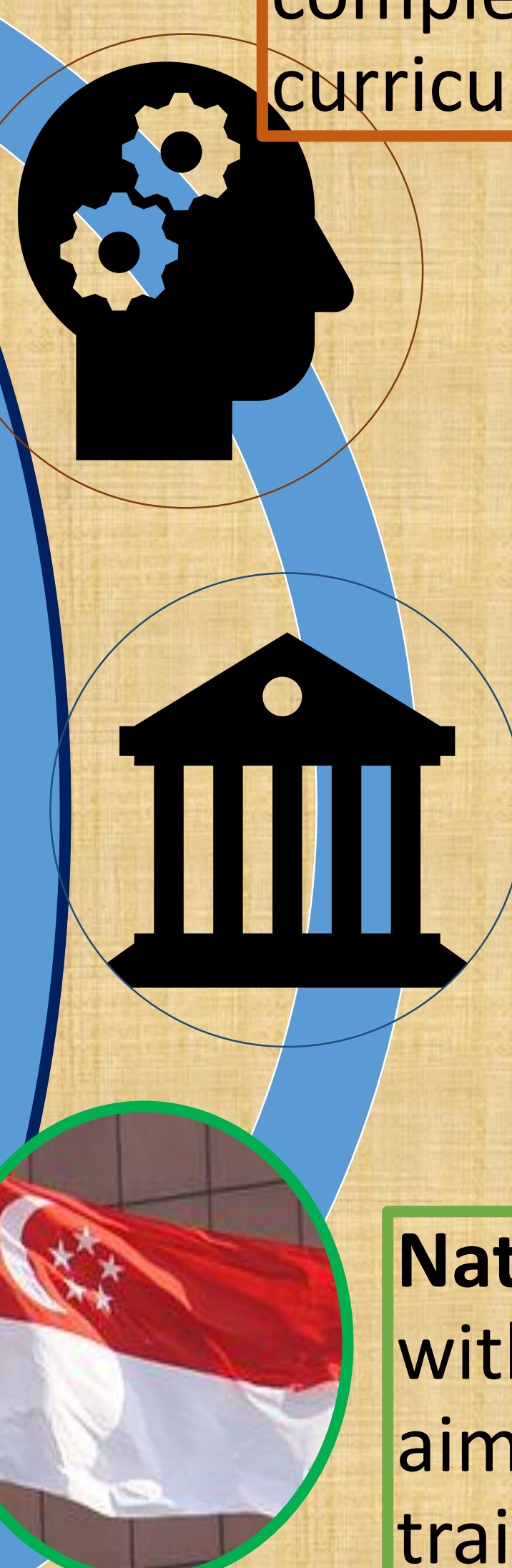
Tripartite Partnership between Stakeholders:  
SGH, Duke, Student Council

**Educational Aim:** Unique experiential training of medical students in core competencies of supporting disaster management complementing the curriculum.

**Institutional Aim:** To complement the institution's disaster response by having a pool of trusted, trained, competent volunteers familiar with the system that can be mobilized readily.

**National Aim:** Alignment with **SG Secure** with aims of sensitizing, training and mobilizing the public for a robust community response to threats and disasters.

**Mission:** To recruit, train and retain keen medical students in different areas of disaster management who can be easily activated in the event of an emergency to serve as skilled manpower support



## Methodology

**Medical student involvement:** Voluntary sign-up, train-the-trainer concept.

**Trainers:** Emergency Physicians with contributions from other specialities, nursing, and allied health.

**Key content:** Disaster response principles, HAZMAT, crowd control and marshalling, logistics, psychological support, basic first aid and procedures. Modular content with competency assessment.

**Teaching methods:** Hands on experiential learning with participation in disaster exercises and response planning.

**Training frequency:** Scheduled sessions four times yearly, with ad hoc participation in disaster exercises.

**DVC activation:** Call tree method

## Results

- Formal agreement between Duke-NUS Medical School and SGH ED for the formation of the **Disaster Volunteer Corps (DVC)**.
- Pilot program involves 10 medical students and 4 Emergency Physician faculty.

### Completed modules and courses

- Overview on disaster response management principles
- **Disaster First Aider Course**
- **Disaster Field Responder Course**
- **HAZMAT First Responder course**
- **Hospital wide disaster exercise (18 May 2019)**



## Conclusion

The Disaster Volunteer Corps provides a unique way of teaching medical students disaster medicine principles in a hands on experiential format, while simultaneously enhancing the operational readiness of the hospital in times of disaster.

This model of close collaboration between university education and healthcare services provides a feasible model of structured volunteerism that could be replicated in other similar settings.