

## Lessons from the February 2011 Christchurch Earthquake for the training and preparation of Post Graduate Year 1 (PGY1) doctors

On 22 February 2011, a 6.3 magnitude earthquake struck Christchurch, New Zealand injuring 6659 people with the equivalent of a month's worth of major trauma (150 cases) admitted through the Christchurch Hospital doors in just a few hours.<sup>1</sup> There was considerable distress and damage throughout the three hospitals.

This letter shares lessons learnt for informing prevocational (PGY1) training in New Zealand drawing on data from a larger study undertaken to document Prevocational House Officers (PGY1HO) experience of the earthquakes. This retrospective study used a mixed methods design<sup>2</sup> and is part of the Researching the Health Implications of Seismic Event group (RHISE).

There were 36 PGY1HOs employed at the Christchurch District Health Board (CDHB) at the time of the earthquake on 22 February 2011. There was a 72% response to the survey.

**Immediately following the earthquake**—There was confusion about where to go. 77% of respondents reported receiving no clear instructions from senior medical staff on what they should do immediately following the earthquake. 19% recall receiving immediate and clear instructions from a senior colleague.

**During the first 3 days following the earthquake**—73% reported being directly involved in the care of earthquake victims and work being emotionally challenging. Emphasis was placed on the early discharge of stable non trauma patients to free up beds for the incoming trauma cases. Supervision and leadership changed in a positive way, PGY1HO reporting that greater direction was provided by senior medical staff and constructive team work was seen across the specialties.

**Impact professionally and personally was significant**—Difficulties with work in the weeks following the earthquake were reported by 92%. This included stress from aftershocks, lack of sleep, patients' distress and fear, the significant impact of poor living conditions, and problems with transport. The change of runs which occurs on a three monthly basis occurred one week after the earthquake and was seen as an added stressor by 14%.

**Learning reported**—54% described learning more about the process of emergency care and 19% said they developed new emergency clinical skills. Others reported that they had developed skills as to how to cope with the “*unpredictability and stressfulness*” of a crisis and grow from it as a person.

**Issues consider in planning prevocational HOs orientation and training**—Themes of management of willing helpers, alternative communication and teamwork with clear leadership emerged in this study (see also Ardagh<sup>1</sup>).

For those of us involved in teaching PGY1 doctors there are some lessons to be shared:

- Firstly, for greater than 75% of PGY1HO to not know their responsibilities in a mass casualty incident is of concern. This could be rectified, by ensuring that during orientation the specific roles and responsibilities of PGY1HOs in such an event are outlined. Other recommendations from the HOs include designated meeting points for doctors at times of crisis and more trauma/disaster training for junior medical staff.
- The decision to change rotations was reported as stressful by the house officers. It disrupted established teams where communication patterns and trust had been established, limiting flexibility and responsiveness for some teams.
- Difficulties arose in dealing with frightened patients and at the same time not being able to communicate with one's own family, and friends. We recommend that communication of the hospital plan at orientation includes forewarning about the personal impact of a disaster and stresses the importance of having a personal family plan for communicating and meeting in a disaster.

While the DHB did have and has a current disaster plan, improved training for junior doctors is required to ensure sure that they have a clearer understanding and awareness of disaster management at both a professional and personal level.

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### References:

1. Ardagh MW, Richardson SK, Robinson V, Than M, Gee P, Henderson S, Khodaverdi L, McKie J, Robertson G, Schroeder PP, Deely JM. The initial health-system response to the earthquake in Christchurch, New Zealand, in February, 2011. *Lancet* 2012;379:2109–15. Published Online April 16, 2012 DOI:10.1016/S0140-6736(12): 60313-4.
2. Creswell JW. *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publication, 2009.

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