A national trauma network: now or never for New Zealand

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It was as long ago as the late 1970s that Trunkey and West in their classic Orange County study showed that without a trauma network, or system, there was a high percentage of preventable and potentially preventable trauma deaths.\(^1\) Similar data were reported in the UK in the late 1980s\(^2,3\) and, with the failure to develop an effective trauma network, very similar data was reported from the UK recently.\(^4\)

In Australia, in particular in Victoria, McDermott and others reported a similar incidence of preventable and potentially preventable trauma deaths as in the UK.\(^5\) Unlike the UK, however, Victoria instituted a trauma system in 1999 and is now able to show a statistically significant reduction in the incidence of both these categories of death,\(^6\) demonstrating without doubt what Trunkey fist espoused in the late 1970s “Trauma Systems Save Lives”.

In New Zealand (NZ) we have never had a study that confirms the US, UK and Australian data, that there are likely to be a significant number of preventable and potentially preventable deaths in our systemless “non-network”. In many ways we have taken a leaf out of Samuel Shem’s classic novel, The House of God, and demonstrated that if you don’t want to find a fever, don’t take the temperature\(^7\).

Undertaking studies like Trunkey’s in the US and UK and McDermott’s in Victoria takes resolve and resources and these have never been in evidence in NZ. Seemingly there has been no jurisdictional resolve to establish what is almost certainly the case, that at least 30% of trauma deaths in NZ are preventable or potentially preventable.

The paper by Falconer published in this issue of the NZMJ using basic methodology suggests about 10% of pre-hospital deaths were preventable and about 30% potentially preventable.\(^8\) While anatomic analysis of injury severity in this study suggested the survivability of large numbers of pre-hospital deaths, the magnitude of this is questionable. For example, patients with an ISS between 25 and 49 were regarded as potentially survivable but this group includes those with extremely severe (AIS=5) head injuries that may in themselves be unsurvivable. In fact, amongst a group of 996 trauma patients with an ISS between 25 and 49 admitted to Auckland City Hospital a total of 328 (33%) died.

More rigorous TRISS methodology,\(^9\) which incorporates physiology as well as anatomic and mechanism of injury criteria, revealed only 148 patients who had probabilities of survival over 50% but who died, a much smaller potentially preventable group (Auckland City Hospital Trauma Registry, unpublished data).

However, despite the fact that pre-hospital deaths, where resources are likely to be an issue, are much less likely to be truly preventable than hospital deaths (in the ED, OR or ICU) where resources may be adequate but decision-making questionable, this study highlights what has been not been demonstrated before in NZ on a population-based denominator, that there are a significant number of preventable and potentially preventable trauma deaths in NZ.
Over the past 15 years there have been a number of attempts to establish an effective national network for the management of major trauma patients. In Victoria, injury-related agencies—in particular the Department of Health and Aging (DoHA) and the Transport Accident Commission (TAC)—have been able to work together to define a network, incentivise it, and get improvements in trauma care. In contrast, interagency “parcel-passing” in NZ has seen no one group or collective assume responsibility for this process. As a result, a national major trauma network and the data system to monitor the performance of trauma care delivery does not exist.

The current political environment which supports multidisciplinary clinician-led governance in healthcare has yet again opened the window for development of a national trauma network. The overseas data and the local paper published in this issue support the assumption that we have an incidence of preventable and potentially-preventable trauma deaths and that this could be reduced by an effective trauma network. To miss this opportunity would see NZ remain amongst a minority of first world countries and consign our population to hit-and-miss trauma care.

The evidence, the enthusiasm and the essential elements for the development of a national trauma network exist in NZ right now and if this cannot be accomplished there must be doubt that NZ can ever take this step towards first world trauma care.

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References: