

The 'six hour target' in New Zealand is associated with reduced mortality and greater efficiency

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The introduction of the Shorter Stays in the Emergency Department health target (the six hour target) in July 2009 was a significant development in New Zealand, being the first and only high-level accountability measure for the care of acute (unplanned and urgent) illness and injury. It required district health boards (DHBs) aspire to admit, discharge or transfer 95% of emergency department (ED) patients within six hours of presentation.

It came about after the advocacy of clinicians for a meaningful solution to worsening ED and hospital overcrowding,^{1,2} eventually leading to a meeting to discuss possible solutions in Wellington in early 2008. When the participants of the meeting were asked what they wanted, a director of a large and troubled emergency department stood up and said, 'I just want someone to give a shit.' This laconic, colloquial quote summarised the consequent direction of travel. A major health target associated with acute care would require DHBs give attention to improving acute care in proportion to the attention they were giving to elective (planned) care.²

The consequent report to the Minister of Health called: *The Report of the Working Group for Achieving Quality in Emergency Departments*, provided a thorough examination of the problem and its causes, and made a number of recommendations, including the adoption of a high-level health target based around length of stay (LOS) for patients in EDs.

The new government received the report and accepted this recommendation, appointed a National Clinical Director of ED services and endorsed the establishment of a National ED Advisory Group, consisting mostly of doctors and nurses

from throughout New Zealand. There was awareness of the English National Health Service (NHS) experience with a four hour ED LOS target and mixed feelings about its utility. Experience in the UK suggested the target sometimes could be achieved without improving patient care, indeed potentially making patient care worse, by truncating care or moving patients through the system inappropriately—"hitting the target, but missing the point".

In New Zealand, all players—the Minister, the National Clinical Director, the Advisory Group members and clinicians around the country—were determined to use the target to drive improvements in care, and not allow 'gaming' of the target, or shifting of the clinical risk outside the ED to other parts of the system. It was to be a tool to encourage genuine, whole of system improvements in care—quality, not blinkered compliance. It was to be owned and policed by clinicians—the clock should not trump good clinical decisions.^{3,4,5}

However, it is not easy creating the understanding that most of the necessary steps to achieving the target are outside the ED, consequently getting buy-in from all who need to contribute, and then changing complex, silos of disconnected care into joined up cooperatives of care, primarily honouring the patient travelling through them. Such change takes time, and there was some pressure for DHBs to achieve the target sooner rather than later.

There is a narrow therapeutic window with an intervention of this sort, so that it is pushed hard enough to get movement but not so hard that it drives bad behaviour. To dose the target in this therapeutic window or keep it in the warm Goldilocks Zone of ample encouragement but not too much pressure, a

six hour time period was chosen, rather than four hours. Similarly, it was stated at the beginning and repeatedly to anxious officials that this would, and indeed should, take at least four years to achieve. Finally, it was explicitly owned and navigated by clinicians who preserved the centrality of the 'quality not compliance' principle.

Did it work?

In this issue of the Journal, Peter Jones and colleagues publish two of the papers from their comprehensive Health Research Council funded 'Shorter Stays in the ED National Research Project'. One paper⁶ gives a before and after the target picture of process and clinical measures across the whole of New Zealand, and the other⁷ drills down to look at more specific measures at four DHBs. The papers have limitations, particularly regarding their abilities to attribute any changes to the target. The authors acknowledge this and other limitations. However, we should acknowledge that their work represents the most significant research into the utility of an ED LOS target ever undertaken. They should be thanked and congratulated for doing it.

The underlying question is whether the six hour target was good or bad. Did it result in delays to some care, because patients were moved promptly out of the ED before getting the care they should have? Did it result in more admissions to hospital wards because the ED did not take the time to enable a good discharge home? Did it result in greater mortality or increased re-presentation rates because patients were discharged from the ED too quickly?

Or, given the pre-target estimate that ED overcrowding was causing hundreds of deaths in New Zealand each year,² would the improvements consequent to the target result in reduced mortality?

In their paper *Effect of the Shorter Stays in Emergency Departments time target policy on key indicators of quality of care*⁷ Jones and colleagues found that, in the four DHBs they studied, there were no differences to time to treatment for ST elevation myocardial infarction, antibiotics in severe sepsis, analgesia for moderate or severe pain, theatre for fractured neck of femur and theatre for appendicitis. Nor were there any changes to the adequacy of treatment.

However, it is their paper *Impact of a national time target for ED length of stay on patient outcomes*⁶ which is most impressive. This is a nationwide observational study of all DHBs able to provide the relevant data (18 out of 20) covering 90% of hospitals nationwide. Despite more presentations and a case mix which is older and with greater urgency (more urgent triage categories) in the post-target period, the improvement in outcomes was dramatic. Of course, there was better performance against the six hour target and ED LOS reduced in general, for all patient types and particularly for those being admitted to a hospital ward (nearly three hours reduction). However, in keeping with the intent of the target to drive whole of system changes, the inpatient LOS reduced also, freeing up an estimated 145,000 bed days across the country in 2012.

There was no significant increase in rates of admission to hospital, suggesting the target was not being achieved by simply admitting more patients. There was no significant change to re-presentation to the ED within 48 hours, suggesting the target was not being achieved by sending people home before they had received adequate care. Prior to the target there was an increasing trend in the proportion of people attending an ED who left before being seen by a clinician other than the triage nurse. There is appreciable clinical risk associated with this group. After the target, the proportion who did not wait was falling again.

Mortality was unchanged among those discharged home from the ED, or those admitted from the ED to a hospital ward, suggesting the target was not being achieved by 'shifting the risk' to areas other than the ED. Most dramatic among their findings was that there was a significant fall in mortality among ED patients, equating to 700 fewer deaths in 2012 than there would have been had pre-target trends continued. This is an extraordinary finding.

The Shorter Stays in the ED health target has been an important and useful intervention in New Zealand health care. However, it is an intervention for a problem which is chronic and progressive. Not only do we need to ensure we keep it in the therapeutic window but we need to do it for life.

Competing interests:

Professor Ardagh was National Clinical Director of Emergency Department Services, with the Ministry of Health New Zealand, from the instigation of the position in 2009, until the end of 2014.

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