Emergency department overcrowding: the solution to any problem is a matter of relativity

Is the 4-hour rule achievable — and beneficial — in our current system of health care?

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Albert Einstein is famously thought to have said that insanity is "doing the same thing over and over again and expecting different results".[1]

This quote is relevant to the research articles on emergency care featured in this issue of the Journal. Lowthian and colleagues suggest that, in the face of increasing demand in our emergency departments (EDs), the 4-hour National Emergency Access Target[2] "may not be achievable in the current system of care".[3] Their message is clear: we must change the way our hospitals work if we are to meet current and future demand.

Geelhoed and de Klerk report on outcomes after the introduction of the 4-hour rule in Western Australia.[4] They give the 2-year results of an ongoing experiment that demonstrate a marked reduction in access block, ED length of stay, and mortality rate — crude but measurable outcomes. These results were achieved despite an increase in patient presentations. The authors do not provide information on how these changes were achieved or whether there were any unanticipated consequences for patients and staff (other than noting some concerns of junior doctors); but implementation of the 4-hour rule in WA has previously been described.[5] Significant improvements in achieving the target were reported in its first year, and the key factor identified then was a "whole-of-hospital" response to ED overcrowding, rather than an ED-centred approach. Ownership and accountability by all areas delivering patient care, along with transparent targets, drove the improvement. Ensuring there were senior decision-makers in the hospital after hours allowed patients to be moved safely from the ED to the wards.[5]

The importance of Geelhoed and de Klerk's study is that it reports the first key clinical outcomes since the time-based target was introduced. Sub-analysis must and will follow, and the stories of staff and patients are yet to be fully told. The important message is that a structural change was applied to an overburdened system, and the authors present a clear response to the concerns raised by Lowthian and colleagues. They examine the issues through a lens that challenges tightly held beliefs about where patients need to be and the roles of EDs and inpatient areas.

Both articles identify demand-management strategies that have been employed in Australasian EDs in the past 10 years. These include the introduction of fast-track, allied health and pharmacy services, rapid assessment teams and the establishment of observation units. There have been many community programs aimed at preventing acute care presentations by providing wellness surveillance and patient support at home. However, early gains made by these programs have been unsustainable as the burden of disease and our ageing population continue to rise.[6] As Lowthian et al state, "Increasing efficiency alone is unlikely to meet this demand". The solution does not lie in the ED alone.

Clinicians and health economists have struggled with the future vision of our health system. In 2007, Armstrong and colleagues noted that we

> are now under threat as our health system is stretched by an ageing population, the growing burden of chronic illness, and the increasingly outmoded organisation of our health services … there is no room for complacency, or for inertia in reforming our health care system.[7]

They concluded that the pre-eminent challenge was that of achieving health equity for all Australians, regardless of race, income or where they live.[7] However, inequity exists when there is ED overcrowding — through increased error,[8] more patients leaving the ED without being seen,[9] longer ambulance offload times[10] and longer inpatient length of stay.[11] Patients who require unplanned admission to hospital because of their medical condition, such as trauma patients,[12] patients with chest pain[13] and the elderly,[11] are all adversely affected by prolonged waits in EDs. Simply put, overcrowding can lead to death.[12,14]

I urge anyone interested in health care reform to critically examine the literature emerging from WA, which is a more relevant mirror to Australian practice than that of the United Kingdom or New Zealand. If nothing else, the WA experiment has challenged traditional beliefs and shown that doing things differently can change outcomes. We must interpret this research cautiously, and encourage appraisal and debate. Questions must be asked about the generalisability of the WA results and whether the reduction in mortality rate reflects better quality of care for all patient groups. Geelhoed and de Klerk discuss the benefits of improved

communication between EDs and wards, and the shared accountability for patient care, that have been achieved through the restructure of the WA hospital system. They look back at the time before the introduction of the 4-hour rule and conclude that

> exposure of EDs to unlimited numbers of patients — while inpatient wards are protected with "quotas" and have no responsibility for overcrowding in EDs — is unsustainable, dangerous for patients and illogical.

Together, these reports provide us with a snapshot of the increasing demands facing the health system and the effects this demand has had on patient outcomes to date. The experience in WA certainly shows how one jurisdiction has had success in improving the patient journey and in reducing mortality. Importantly, Geelhoed and de Klerk's study provides some optimism to accompany the introduction of the National Emergency Access Target.

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1 Passuello L. Litemind. Favorite quotes. http://litemind.com/favorite-quotes/ (accessed Dec 2011).
2 Baggoley C, Owler B, Grigg M, et al. Expert panel review of elective surgery and emergency access targets under the National Partnership Agreement on Improving Public Hospital Services. Report to the Council of Australian Governments, 30 June 2011. Canberra: Commonwealth of Australia, 2011. http://www.coag.gov.au/docs/Expert_Panel_Report%20D0490.pdf (accessed Jan 2012).
3 Lowthian JA, Curtis AJ, Jolley DJ, et al. Demand at the emergency department front door: 10-year trends in presentations. *Med J Aust* 2012; 196:128-132.
4 Geelhoed GC, de Klerk NH. Emergency department overcrowding, mortality and the 4-hour rule in Western Australia. *Med J Aust* 2012; 196: 122-126.
5 Mountain D. Introduction of a 4-hour rule in Western Australian emergency departments. *Emerg Med Australas* 2010; 22: 374-378.
6 Braitberg G. Emergency department overcrowding: dying to get in [editorial]? *Med J Aust* 2007; 187: 624-625.
7 Armstrong BK, Gillespie JA, Leeder SR, et al. Challenges in health and health care for Australia. *Med J Aust* 2007; 187: 485-489.
8 Lui SW, Thomas SH, Gordon JA, Weissman J. Frequency of adverse events and errors among patients boarding in the emergency department. *Acad Emerg Med* 2005; 12 Suppl 1: 49b-50b.
9 Mohsin M, Forero R, Ieraci S, et al. A population follow-up study of patients who left an emergency department without being seen by a medical officer. *Emerg Med J* 2007; 24: 175-179.
10 Fatovich DM. Effect of ambulance diversion on patient mortality: how access block can save your life. *Med J Aust* 2005; 183: 672-673.
11 Krochmal P, Riley TA. Increased health care costs associated with ED overcrowding. *Am J Emerg Med* 1994; 12: 265-266.
12 Richardson DB. Increase in patient mortality at 10 days associated with emergency department overcrowding. *Med J Aust* 2006; 184: 213-216.
13 Schull MJ, Vermeulen M, Slaughter G, et al. Emergency department crowding and thrombolysis delays in acute myocardial infarction. *Ann Emerg Med* 2004; 44: 577-585.
14 Sprivulis PC, Da Silva JA, Jacobs IG, et al. The association between hospital overcrowding and mortality among patients admitted via Western Australian emergency departments. *Med J Aust* 2006; 184: 208-212. ❑