

## **Mortality from coronary heart disease: the (unnoticed) elephant in the room**

Ellis et al<sup>1</sup> in their third audit of hospital management of acute coronary syndromes (ACS) in New Zealand (NZ) hospitals report a continuing gap in optimal management between hospitals equipped and not equipped with invasive cardiac facilities.

The figures quoted by Ellis et al, however, show important long-term trends, which are not commented upon by the authors. First, to those of us who remember when in-hospital case fatality from ACS was 25%, the fact that there were only 20 in-hospital deaths (2%) among 1007 suspected cases of ACS and 17 (3.2%) among those in whom the diagnosis was confirmed, is truly remarkable and testifies to continual improvements in treatment as well as to declining severity of attacks.

But this good news from the hospitals ignores more unpleasant public health realities. According to the NZ Ministry of Health<sup>2</sup> there were 5389 deaths from coronary heart disease in NZ in 2010; allowing for the continual fall in mortality there should have been about 5230 in 2012.

The 20 hospital deaths recorded by Ellis et al happened over 2 weeks, so assuming that the 2-week study was representative, there must have been about  $20 \times 26 = 520$  hospital deaths over the whole of 2012. So about 90% of all deaths from ACS happened outside hospital—not altogether surprising in view of the fact that hospital mortality is declining even faster than community mortality, and suggestions from overseas studies that the ratio of out-of-hospital to in-hospital deaths is increasing.<sup>3,4</sup>

What should be done about this “elephant in the room”? Short of prevention (primary and secondary), more lives are saved in ACS by defibrillation than by any other treatment.<sup>5</sup> Defibrillation is more likely to be successful at the start of a heart attack than later, and early access to defibrillation depends on the patient calling for help from the ambulance with minimal delay, and the promptness of ambulance paramedics in answering the call.

Available evidence suggests that ambulance response is usually prompt, but there is concern that the behaviour of patients in calling for help, and the speed of general practitioners in responding (if they rather than the ambulance are called), leaves much to be desired.<sup>6,7</sup>

From a public health rather than from a purely hospital perspective in the management of ACS, the “elephant in the room” surely deserves further study. The out-of-hospital toll from ACS could at least be mitigated by expediting access to a defibrillator even earlier than at present for patients with prolonged chest pain.

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