

## Editorial

# Death on the waiting list for cardiac surgery

Two studies into mortality while awaiting cardiac surgery are published in this issue<sup>1,2</sup>; one from New Zealand and one from the Netherlands. These countries have long waits for routine surgery, as does the UK—the median out of hospital waiting time of 146 days for surgery in New Zealand compares with a current median wait of 175 days for routine surgery at Wythenshawe Hospital in Manchester, UK. The mortality while waiting for coronary artery bypass surgery (CABG) in New Zealand was 2.6%. In the Netherlands, where waits were somewhat shorter, mortality was 0.6% for CABG and 1.4% for combined CABG and valve surgery. This mortality was despite the usual attempts to categorise patients according to the perceived risk of waiting for surgery. A previous study from the UK<sup>3</sup> reported a cardiac surgery waiting list mortality of a similar magnitude to the New Zealand publication. To view these figures in perspective it should be noted that the postoperative mortality following CABG in the UK in 1996–97 was 3.1%.<sup>4</sup> In most specialities waiting for surgery is associated with ongoing impairment of health related quality of life, but it is only in cardiac surgery (and possibly vascular surgery) where waiting is associated with mortality. The obvious questions that arise are how can you predict which patients are going to die while awaiting surgery, and how can you manage waiting lists to prevent or minimise mortality?

The New Zealand study examined the use of the New Zealand cardiac prioritisation score to predict mortality while on the waiting list. This scoring system was commissioned by the New Zealand government and developed by a panel of experts.<sup>5</sup> It gives relative scores according to severity of symptoms, extent of coronary artery disease, left ventricular function, exercise test results, and social factors. It has been used as a rationing tool whereby patients are only offered publicly funded cardiac surgery if they score over a certain threshold. In the study reported here, the New Zealand prioritisation score did not identify those at risk of dying or suffering a cardiac event while awaiting surgery. As well as a mortality of 2.6% for patients awaiting surgery at home, nearly 20% were readmitted with unstable angina or myocardial infarction and then proceeded to surgery as an inpatient with the extra risks and costs involved. Attempts to prevent mortality by ascribing differing clinical priority to different groups of patients were only partially successful. In the New Zealand analysis, the predictors of an adverse event while awaiting surgery were the severity of angina, history of hypertension, and previous CABG.

The study from the Netherlands examined the time course of mortality while waiting for surgery and found that the median time from acceptance for surgery to death was just over one month. Many of the patients had sudden

death at home without any preceding symptoms. Again their current system of clinical priority assignment was not successful at preventing waiting list mortality.

In the UK National Health Service surgeons usually manage their own waiting lists and in doing so they must balance a number of factors such as clinical priority, political issues (such as the Patients' Charter with its commitment to prevent long term waiting), and local business issues such as the necessity to fulfil various different contracts with their purchasers. These roles are often conflicting and decision making can be difficult. The most important factor is obviously to ascribe appropriate clinical priority but this is often at odds with the other influences. The two papers published here, along with previous reports, suggest that current techniques of "triage" are only partially successful at preventing waiting list mortality. Indeed it may not be possible to gain further benefits by using more sophisticated prediction tools with the current state of understanding the pathogenesis of unstable angina and myocardial infarction.

What should we tell patients who are placed on the waiting list for cardiac surgery? When patients are seen by a surgeon and accepted for surgery it is usual to explain the procedures along with the risks and projected benefits. The risks discussed usually being those related to the surgery itself, not those inherent in waiting, which seems to carry a mortality approaching a similar magnitude. The Dutch study suggests that to decrease waiting list mortality significantly would require a system whereby surgery was undertaken almost immediately, which currently happens in the UK in the private sector but will not happen in the NHS without an enormous injection of resources. There were about 24 000 CABG operations performed in the UK in 1996–97, therefore, the mortality rate of waiting for surgery may be as high as 500 patients a year. Any development that could decrease operative mortality by 2% would certainly be heralded as a major advance, but for now waiting list mortality will remain as a significant but potentially treatable contribution to the overall mortality from ischaemic heart disease.

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- 2 Plomp J, Redekop WK, Dekker FW, *et al.* Death on the waiting list for cardiac surgery in the Netherlands in 1994 and 1995. *Heart* 1999;81:593–7.
- 3 Billing JS, Arifi AA, Sharples LD, *et al.* Heart surgery in UK patients: planned care or crisis management? *Lancet* 1996;347:540–1.
- 4 Society of Cardiothoracic Surgeons of Great Britain and Ireland. *Cardiac Surgery Register* 1996–7.
- 5 Hadorn DC, Holmes AC. The New Zealand priority criteria project. Part 2: coronary artery bypass graft surgery. *BMJ* 1997;314:135–8.