

# TESTING TREATMENTS

## Chapter 6, 6.3.1 FAIR TESTS OF TREATMENTS

### Treatments with moderate but important effects

#### *Comparing patients given treatments today with apparently similar patients given other treatments in the past for the same disease*

Researchers sometimes compare patients given treatments today with apparently similar patients given other treatments in the past for the same disease. Such comparisons can provide reliable evidence if the treatment effects are dramatic – for example, when a new treatment now leads some patients to survive from a disease that had been universally fatal. However, when the differences between the treatments are not dramatic, but nevertheless worth knowing about, such comparisons using ‘historical controls’ are potentially problematic. Although researchers use statistical adjustments and analyses to try to ensure that like will be compared with like, these analyses cannot take account of relevant features of patients in the comparison groups which have not been recorded. As a result, we can never be completely confident that like is being compared with like.

The problems can be illustrated by comparing the results of the same treatment given to similar patients, but at different points in time. Take an analysis of 19 such instances in patients with advanced lung cancer comparing the annual death rates experienced by similar patients treated at different points in time with exactly the same treatments. Although few differences in death rates would have been expected, in fact the differences were considerable: death rates ranged from 24% better to 46% worse.<sup>4</sup> Clearly, these differences were not because the treatments had changed – they were the same – or because the patients were detectably different – they weren’t. The differing death rates presumably reflected either undetected differences between the patients, or other, unrecorded changes over time (better nursing or control of infection, for example), which could not be taken into account in the comparisons.

#### *Comparing apparently similar groups of patients who happen to have received different treatments in the same time period*

Comparing the experiences and outcomes of apparently similar groups of patients who happen to have received different treatments