19.7: Modelling

The cost-effectiveness measured within the trial follow-up period may be substantially different from what would have been observed with longer follow-up. For example, at the time a phase III trial is completed and a vaccine is licensed, there may still be substantial uncertainty about the duration of protection offered by the vaccine beyond the follow-up period in the trial. Modelling of various kinds can be used to estimate costs and outcomes that would have been observed had follow-up of the trial population been prolonged. This involves projecting costs and outcomes over the expected duration of disease and of the intervention and its effects. This may involve making significant assumptions about the future, for example, the life expectancy of a patient on a given treatment. Any such assumptions should be specified. In general, modelling of costs and effectiveness of interventions is being more widely used to assist in decision making (World Health Organization, 2004) but is beyond the scope of this book.