1. Introduction

AIDS is not only a disease of great social concern; it also has major resource implications. In most of the developed countries governments have been concerned about the costs of treating an increasing number of cases and the costs of mounting major public information campaigns to prevent the spread of the disease. The increased expenditure on treatment has raised questions about the relative priority that should be assigned to interventions for AIDS and HIV infection, when there are many other potential uses of scarce health care resources. The relative value for money of alternative treatment packages has also been a source of debate.

In principle economic evaluation can assist those making choices in the allocation of health care resources at national, regional and local levels. A number of studies of the costs of treating AIDS and the related consequences of HIV infection have been published in recent years. Given the increasing concern about the economic impact of AIDS and the growing economics literature, this paper:
- Briefly outlines the methods of economic evaluation of health care programmes
- Reviews and interprets existing studies of the costs of treating AIDS
- Specifies how one would undertake an economic evaluation of a programme for the treatment of AIDS, using the example of drug therapy.

2. Methods for the economic evaluation of health care programmes

The methods for the economic evaluation of health care programmes have been extensively documented elsewhere (Weinstein and Stason, 1977; Warner and Luce, 1982; Drummond et al., 1987), so only a few methodological issues pertinent to the evaluation of AIDS programmes will be highlighted here.

First, economic evaluation should embody a comparison of alternatives. These may be alternatives in prevention, diagnosis, treatment or the organization of services. Therefore, cost of illness studies (Scitovsky and Rice, 1987) are not of themselves full economic evaluations, although they may provide useful background data for discussions of priorities in research or treatment (Black and Pole, 1975).
Secondly, economic evaluations require an assessment of the effectiveness of the health treatments or programmes concerned. Ideally, this should be established through controlled studies, such as randomised controlled trials. However, the difficulties in mounting trials in a disease like AIDS/HIV should not be under-estimated. Being a life-threatening condition it has inevitable emotional overtones which militate against random allocation of subjects to receive, or not receive, a new treatment technology. Also, treatment practices have changed rapidly, making the strict adherence to trial protocols difficult. However, the danger is that new treatments may not be properly evaluated and economists will have to use guesswork in assessing the cost-effectiveness of treatments or programmes.

Thirdly, an appropriate range of costs and consequences needs to be considered. Fig. 1 gives the relevant range for the evaluation of options from the viewpoint of society. Other viewpoints include those of the hospital, health care system, government or patient. Different viewpoints imply consideration of different costs and consequences so it is important that the viewpoint of the evaluation be stated explicitly. Economists argue that the societal viewpoint, being the broadest, should always be considered by health policy makers.

In particular, significant amounts of voluntary and informal care resources are being consumed in AIDS/HIV programmes in many developed countries. Therefore it is important that health policy is not determined solely by economic studies that focus on a more narrow hospital or health care sector perspective. Indeed one of the most interesting issues for economic evaluation is the comparison, in terms of value for money, of comprehensive community-based care, using voluntary support, with traditional hospital-based regimens.

Finally, more effort needs to be placed on the interpretation of study results for decision making purposes. Given the comments made earlier about uncertainties in assessment of the effectiveness of interventions and the additional difficulties of interpretation of results from one setting to another, it is important that economic evaluations incorporate a sensitivity analysis, where the estimates are produced using a range of values for the key parameters.

Also, given the need to assign priorities between programmes for AIDS/HIV and other diseases, it is important that the results of economic evaluation be comparable across different health care interventions. One promising approach is the calculation of the cost per quality adjusted life-year gained (QALY) from different interventions (see Table 1). If the results for AIDS/HIV programmes are to be included in such tables in the future, data will be required not only of the extension of life from treatment or prevention, but also of the quality of that life (see Fig. 2). Economists and others have developed a number of approaches for measuring the quality of life (Katz, 1987; Teeling Smith, 1988; Walker and Rosser, 1988).