Economic evaluation: A useful research method

Marion Haas
Centre for Health Economics Research and Evaluation, Sydney

Most commonly, physiotherapists will encounter economics through reading an economic evaluation. It is important that physiotherapists understand the aims of economic evaluation and what represents good practice in economic evaluation so that they are able to make judgments about the standard of published evaluations and their applicability to physiotherapy practice. Whether the results are useful to physiotherapy practice in a particular setting is determined by the extent to which the evaluation employs appropriate methodology and produces valid, transferable results. A number of economists have developed critical appraisal checklists (Drummond et al. 1997, NHMRC 2001, O’Brien et al. 1997).

Economic evaluation is the systematic comparative analysis of alternative courses of action in terms of their costs (resource use) and their consequences. The aim of an economic evaluation is to inform decisions regarding the best way to use limited resources. The principles of economic evaluation involve identifying the alternative interventions being evaluated, then measuring and valuing the costs and consequences (outcomes) of these alternatives.

Thus, economic evaluation is a valid option when the objective is to choose between competing alternatives such as whether to proceed with an intervention or not (e.g., physiotherapy for asthma), choose between different treatments for a condition (exercise therapy or manipulation for chronic low back pain) or decide how to best allocate resources amongst two health programs (early discharge to community care or usual care for stroke rehabilitation).

All important and relevant costs and consequences should be identified, even if it is not possible or necessary to measure or value them all. There are three categories of costs: those associated with the organisation and operation of the program or service; patient and family costs (out-of-pocket costs plus the value of time away from work or alternative activities); and costs incurred in other sectors (e.g., community care, aged care, educational or voluntary services).

Similarly, economic evaluations may incorporate three categories of consequences: changes in health state may be measured as changes in physical, social or emotional function; other consequences such as reduced anxiety or increased knowledge; and resources saved. For example, clinical measures such as changes in pain or range of movement as well as broader measures such as lives saved are examples of changes in health state. It may be appropriate to assess the extent of other consequences in evaluations of health promotion or disease prevention programs (e.g., screening or vaccination programs may reduce anxiety or provide reassurance as well as information and knowledge). Finally, if a program or service is expected to reduce the utilisation or intensity of care, it may be appropriate to measure the extent to which it frees resources for other uses.

It is important to note that while measures of effectiveness are often generalisable to different settings and situations (e.g., a functional measure and pain scale should be used in the same way and measure the same things no matter where the patients are), costs are not so easily transferable to different settings, and in particular, between countries. This is because costs are affected by the diverse ways in which health care systems are funded, organised, and delivered in different countries. Therefore, translating the results of economic evaluations conducted overseas to local circumstances or settings should be approached with caution.

The number and scope of economic evaluations relevant to physiotherapy practice is increasing all the time. The standard is variable, however, and few have been conducted in Australia. PEDro lists six studies (PEDro 2002) which have incorporated an economic evaluation alongside a clinical trial. Of these, only one (Robertson et al. 2001) received a score greater than 5/10. The scope of topics studied in these trials included comparisons of interventions for low back pain (Ankjaer et al. 1994, Bendix et al. 2000) and fibromyalgia (Goossens et al. 1996) and comparisons of programs delivering exercise to prevent falls (Robertson et al. 2001), cardiac rehabilitation (Oldridge et al. 1993) and respiratory rehabilitation (Goldstein et al. 1997). None was Australian.

A wider search of the CINAHL database identified an additional 10 economic evaluations involving physiotherapy (i.e., comparisons of the costs and consequences of interventions or programs) conducted since 1997 on topics ranging from low back pain (4) (Hemmila 2002, Noren et al. 1997, Skargren et al. 1998, Torstensen et al. 1998), stabbed chests (1) (Ngubane et al. 1999), hospital-at-home (1) (Shepperd et al. 1998), rehabilitation for stroke (2) (Beech et al. 1999, Roderick et al. 2001), pre-admission education for total hip replacement (1) (Butler et al. 1996) and rheumatoid arthritis (1) (Li 2000). Most studies were conducted in association with a
clinical trial. None was conducted in Australia.

It will be neither possible nor desirable to design and implement economic evaluations of all possible physiotherapy interventions or programs or services incorporating physiotherapy. However, there are some instances where economic evaluations are more desirable. For example, where practice for a common condition is variable and disagreement exists about the relative effectiveness or cost-effectiveness of interventions, economic evaluation may be warranted. Where practitioners and researchers are in the process of designing evaluations of the relative effectiveness of newly developed interventions, programs or services, the potential usefulness of an economic evaluation conducted alongside a clinical evaluation should be carefully considered. This may be particularly important when the costs of organisation and delivery of services seem likely to affect the potential for new interventions or programs to be adopted by health service planners or managers. For example, when one of the alternatives being evaluated involves new technology or increased intensity of service delivery, an evaluation of both the costs and consequences is likely to provide funders and planners with additional, useful information. Such information can only contribute positively to the efficient allocation of resources.

Physiotherapists will increasingly be called on to participate in, co-operate with or assess published economic evaluations. It is necessary that they understand the parameters of such evaluations and be willing and able to contribute to the design, implementation and appraisal of such studies.

References


