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Pharmacoeconomics

— the importance for pharmacists

By Ron Purkiss, PhD, FRPharmS

Pharmacoeconomics is a relatively new branch of health economics.

Economics is about how we, individuals, society and governments, choose to use fixed resources. Fixed resources can be, for example, time, effort, money, machinery or buildings. Currently, the demand for health care cannot be met with the resources individuals, society and governments are prepared to allocate to it.

Health economics is a tool to help us prioritise different and sometimes competing health care interventions for these fixed resources and, in doing so, health care is treated as a commodity like any other. Unfortunately, however, health care is not as simple as some other commodities and, as we have observed recently in the case of Herceptin, politicians often become involved in this decision-making process.

Pharmacoeconomics helps us to make decisions about the use of medicines. Most pharmacoeconomic studies in health care are cost-effectiveness studies set out to demonstrate how to achieve an objective with the least use of resources. This should not be confused with efficiency, which measures how well we use resources in order to obtain the desired outcome.

Other types of pharmacoeconomic analyses are cost minimisation analyses, where two or more interventions having identical outcomes are evaluated for the least cost for that outcome; cost utility analyses, where the outcome is measured as a utility,

such as quality of life; and cost-benefit analyses, which involve the measurement of both tangible and intangible values. Cost-benefit studies are difficult to design and the biggest problem is quantifying benefits in financial terms. They are therefore rarely used in a health care setting.

Pharmacoeconomics is used at all stages in the development of medicines by the pharmaceutical industry, when medicines are researched, produced and marketed. Some countries insist on pharmacoeconomic evaluations as part of the licensing process. Most hospital pharmacists use pharmacoeconomics to assist with making decisions involving formularies and how medicines can be used in a more cost-effective or cost-beneficial manner.

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However, differing methods of analysis can produce conflicting results. An example is the recent National Institute for Health and Clinical Excellence guidelines on the use of acetylcholinesterase inhibitors in Alzheimer's disease. NICE, using primary cost effectiveness analysis, saw little value in using anticholinesterase inhibitors until the latter stages of the

disease. The Alzheimer's Society submitted to NICE a survey of almost 1,000 patients who had used donepezil, describing its benefits. Although not a true cost-benefit analysis, patient groups, patients and carers placed greater value on benefits perceived or otherwise in the treatment of their elderly relatives or patients than NICE.

Pharmacist input

Knowledge of health economics coupled with political insight is essential to understand resource allocation and expenditure in a modern health care system. Pharmacists, with their unique knowledge of medicine, are crucial in using pharmacoeconomic analysis to influence expenditure and distribution of resources on medicines.

The basis of financing secondary care is currently changing. Under "payment by results", providers of care are paid for each patient spell according to a national tariff, which is based on an national average cost for a particular patient spell. As foundation trusts increase, the number of hospitals that depend on tariff payments for their income also grows. Therefore, using the most efficient methods of working to reduce cost and maximize benefits is becoming increasingly important. Pharmacoeconomics is part of the tool bag pharmacists can use to improve the efficiency of their hospitals.

Politically, payment by results and practice-based commissioning are key elements in the Government's strategy to improve the efficiency of the NHS. In theory, if hospitals improve their efficiency and deliver increased

activity the trust will make a profit, which should then be invested in improving health care. In some medical disciplines the medicines element to the overall tariff price can be considerable, and savings on costs of medicines can make the difference between a profit or loss for the trust. The application of pharmacoeconomics to improve the efficient use of medicines is a key component in this productivity drive.

Medicines expenditure is a highly visible non-staff cost that is always under scrutiny and is seen as an easy and non-controversial budget for targeting. Pharmacists must have efficient, safe and reliable medicines management systems in place and must be able to demonstrate this. Audits of medicine use and clear decision-making processes using pharmacoeconomics demonstrate good practice.

With every aspect of hospital life under scrutiny, pharmacy has become more visible. Although the clinical role of the profession is appreciated, it is the role of the pharmacist in advising on medicines expenditure and ensuring economical use of medicines that has increased demand for their services. In many directorates the only person with the required knowledge, experience and expertise to manage the medicines budget is the directorate pharmacist. Medicines management technicians are now also seen as essential to the overall improvement in efficiency and reduction on medicines expenditure.

Knowledge of health economics and application of its techniques is essential to today's pharmacist.

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