

HOW FAR HAVE WE GOT IN PHARMACOECONOMICS FOR PSYCHIATRY
AND WHERE ARE WE GOING?

Paul McCrone, Katherine J. Aitchison, David Taylor

Declaration of interest: Dr Katherine J. Aitchison is on the UK core steering group for Abilify (aripiprazole), and has received consultancy fees and research support from Bristol-Myers Squibb and Otsuka Pharmaceuticals Limited. She has also been an invited member of advisory boards for Johnson & Johnson, Lundbeck, Roche Diagnostics, and received consultancy fees and research support from Roche Molecular Systems, Johnson & Johnson Pharmaceutical Research and Development, and Lundbeck.

Dr David Taylor has received research support from Janssen-Cilag, Bristol-Myers Squibb and Sanofi-Aventis; and has served as a consultant to Novartis, AstraZeneca, Eli Lilly, Bristol-Myers Squibb and Janssen-Cilag. He has also received speaking honoraria from each of the companies mentioned.

Paul McCrone,¹ Katherine J. Aitchison,^{2,3} David Taylor³

¹Centre for the Economics of Mental Health, Institute of Psychiatry, King's College London, UK; ²MRC SGDP Centre, Institute of Psychiatry, King's College London, UK; ³South London and Maudsley NHS Foundation Trust, London, SE5 8AZ, UK

Corresponding Author

Paul McCrone

Centre for the Economics of Mental Health, PO24 Institute of Psychiatry, King's College London, 16 De Crespigny Park London SE5 8AF, UK

Phone: 44 20 7848 0174 - Fax: 44 20 7277 1462 - E-mail: paul.mccrone@iop.kcl.ac.uk

It could be said that health economics has recently come of age. One of the very earliest economic evaluations of mental health care was a cost-benefit analysis of an early assertive community treatment intervention developed in the 1970s in Wisconsin, USA (Weisbrod et al. 1980). Since then a substantial number of economic evaluations have been published – particularly in the USA and Western Europe but with an increase in other parts of the world too. Why has this been so and why has health economics as a science been accepted as one of the necessary disciplines for evaluating mental health services?

It is probably evident to anyone working within psychiatry that resources are limited in their supply. It is also clear that there are competing demands for those resources. Health problems are likely to increase as longevity rises and the availability of new and improved technologies (better drug treatments for example) will create demand for those technologies to be used. Funds that governments spend on a particular drug treatment for schizophrenia could equally be spent on an alternative treatment (whether pharmacological or not) or could be used to provide care for a different clinical population (e.g. those with cancer, diabetes, etc) or indeed could be used in completely different areas such as defence, education or social care. This is the concept of opportunity cost (lost opportunities arising as a result of decision made) which is fundamental to health economics. This applies to individuals too – spending

on healthcare insurance policies can clearly be used in alternative ways. Given this double problem of limited resources and high demand it is essential that, in addition to establishing the clinical effectiveness of treatment, we also assess its cost-effectiveness. This is where the 'dismal science' of health economics comes in.

This was a time when health economics and health economists were treated with suspicion and even hostility by some involved in caring for patients. There was sometimes a misconception that health economics was all about cutting costs, rather than being a way of combining costs with outcome such that the most 'effect' could be achieved for every monetary unit spent. However, it is clear that this situation has changed and now it is common for psychiatric journals to include economic evaluations and for health economists to present at major conferences. Indeed, there are journals and conferences devoted to this very subject. This change has largely come about because of the recognition of the limited resource-high demand problem by clinicians, policy makers and others. In the USA there have for a long time been moves to attempt to contain the costs of healthcare, whilst in countries such as the UK there has been the recognition of the need to prioritise healthcare spending largely on the basis of the results from cost-effectiveness analyses. In the UK, the establishment of the National Institute for Health and Clinical Excellence (NICE) has arguably

made the process of prioritising (or rationing – which unfortunately is what it is often seen to be) services far more transparent than before (it has of course always happened). This transparency has inevitably made NICE (and elsewhere organisations such as Medicaid) something of a sitting target for the media and special interest groups.

Some clinicians have been at the forefront of this change. The late Professor Robert W Kerwin, to whom this Special Issue of *Clinical Neuropsychiatry, Journal of Treatment Evaluation* is dedicated to, was one of the first Psychopharmacologists to recognise the importance of pharmacoeconomics as applied to psychiatry. His first paper in this field was co-authored with KJA (Aitchison and Kerwin 1997, Kerwin and Aitchison 1997) – and it was Rob's idea to take a cost-effectiveness analysis approach, which greatly enhanced the work. When the study was first presented as a poster (Aitchison and Kerwin 1995), it was a forerunner in the field. Rob retained a strong interest in this area, and continued to publish in the field, especially with DT. This included a textbook on pharmacoeconomics in psychiatry (Taylor et al. 2002), and a controversial examination of hospital resource use following switch to atypical antipsychotics (Lewis et al. 2006). Rob was even contemplating embarking on a higher degree in the field prior to his untimely death.

Health economic studies of mental health treatments and interventions come in all shapes and forms. Some studies seek to determine what the overall economic costs of a particular disorder are. These costs would include those due to the use of services but also the broader societal costs associated with lost employment. Cost of illness studies have some use but they become more informative when we attempt to analyse why costs vary for different groups of patients. In this edition, Knapp et al. assess the impact that negative symptoms have on service costs for people with schizophrenia in five European countries. Such analyses could be helpful in 'predicting' what the resource requirements of patients are on the basis of their clinical characteristics.

The main limitation of such analyses, though, is that they do not tell us how appropriate particular interventions are. This can only come about by combining data on costs and outcomes. There have been major developments in this process and the paper by Hoch describes an innovative (and inherently logical) method known as the *net benefit approach* which is becoming increasingly popular amongst health economists.

There have been numerous economic evaluations of drug treatments for mental health problems. One of the main clinical areas of investigating has been schizophrenia, and the review by Ohlsen and colleagues demonstrates the ongoing debate that exists concerning the appropriateness of different pharmacotherapies for a given disorder. It especially highlights the uncertainty that has recently emerged as to the cost-effectiveness of second generation antipsychotics compared with the first generation antipsychotics.

What does the future hold for mental health economics? One key area is that of genetics. The issues pertinent to the pharmacoeconomics of pharmacogenetic testing are discussed in this edition by Romeo et al. The methods by which costs and outcomes are combined in evaluations are also likely to develop further. There has been substantial disquiet concerning the use of quality-adjusted life years (QALYs) in mental health care evaluations and further work in developing appropriate QALY methods would be most welcome. Crucial, though, is continued *collaboration* between psychiatrists, pharmacists, industrial and other relevant stakeholders and health economists in conducting economic evaluations. The papers in this Special Issue include authors from all disciplines and this can only be to the benefit of economics as applied to clinical psychiatry.

Acknowledgements

Dr Aitchison was funded partly by the Biomedical Research Centre for Mental Health at the Institute of Psychiatry, King's College London and South London and Maudsley NHS Foundation Trust (National Institute for Health Research, Department of Health, UK).

References

- Aitchison KJ, and Kerwin (1995). The costs and benefits of clozapine therapy in the UK. *Schizophrenia Research* 15, 141.
- Aitchison KJ and Kerwin RW (1997). The cost-effectiveness of clozapine. A UK clinic-based study. *British Journal of Psychiatry* 171, 125-130.
- Hoch J (2008). All dressed up and know where to go: an example of how to use net benefit regression to do a cost-effectiveness analysis with person-level data (the 'A' in CEA). *Clinical Neuropsychiatry* 5, 175-183.
- Kerwin RW, Aitchison KJ (1997). Cost-effectiveness of clozapine [letter]. *British Journal of Psychiatry* 171, 584.
- Knapp M, McCrone P, Leeuwenkamp O (2008). Associations Between Negative Symptoms, Service use Patterns, and Costs in Patients with Schizophrenia in Five European Countries. *Clinical Neuropsychiatry* 5, 195-205.
- Lewis S, Davies L, Jones P, Barnes T, Murray R, Kerwin R, Taylor D, Hayhurst KP, Markwick A, Lloyd H, Dunn G (2006). Randomised controlled trials of conventional antipsychotic versus new atypical drugs, and new atypical drugs versus clozapine, in people with schizophrenia responding poorly to, or intolerant of, current drug treatment. *Health Technology Assessment* 10, 17.
- Ohlsen RI, Taylor D, Tandon K, Aitchison KJ (2008). Returning to the Issue of the Cost-Effectiveness of Antipsychotics in the Treatment of Schizophrenia. *Clinical Neuropsychiatry* 5, 184-194.
- Romeo R, Aitchison KJ, Capdevielle D (2008). Pharmacogenetic Testing in Psychiatry: Pharmacoeconomic Applications and Considerations *Clinical Neuropsychiatry* 5, 206-211.
- Taylor D, Knapp M, Kerwin R (2002). *Pharmacoeconomics in psychiatry*. Martin Dunitz, London.
- Weisbrod BA, Test MA, Stein LI (1980). Alternative to mental hospital treatment: II. Economic benefit-cost analysis. *Archives of General Psychiatry* 37, 400-405.