

## Mental Health Research Review 4, April 1997

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Edited by Angela Hallam and Martin Knapp

Text and diagrams sub-edited and typeset by Nick Brawn at the PSSRU.

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### **Personal Social Services Research Unit**

University of Kent, Canterbury,  
Kent CT2 7NF  
Telephone: 01227 764000  
Fax: 01227 827038

London School of Economics,  
Houghton Street, London WC1  
Telephone: 0171 955 6238  
Fax: 0171 955 6131

University of Manchester,  
School of Psychiatry and Behavioural Sciences,  
Mathematics Building,  
Oxford Road, Manchester M13 9PL  
Telephone: 0161 275 5250  
Fax: 0161 275 3924

The Personal Social Services Research Unit was established in 1974 at the University of Kent at Canterbury. Two further sites opened in 1996 — at the London School of Economics and at the University of Manchester — with the aim of further strengthening the Unit's work on the economics of social care and policy and practice issues. The PSSRU is funded by the Department of Health, other government departments, the Economic and Social Research Council, charitable trusts and international social welfare organisations.

PSSRU research focuses on needs, resources and outcomes in social and health care: its concerns are resourcing, equity and efficiency from the perspective of users, agencies and others. A distinctive analytical framework called the 'production of welfare approach' has been developed by the Unit to illuminate such research. The PSSRU applies the approach in studies of a wide range of areas. Most of its work has been on what is loosely described as 'community care', but it has also worked on other areas such as Inpatient health care, housing, income maintenance, criminal justice services, and the voluntary sector.

Details of PSSRU publications appear throughout the Review. For general enquiries about the PSSRU, contact Judy Lee on 01227 827672.

### **Centre for the Economics of Mental Health**

Institute of Psychiatry  
7 Windsor Walk  
Denmark Hill  
London SE5 8BB  
Telephone: 0171 919 3198  
Fax: 0171 701 7600

The Centre for the Economics of Mental Health was established at the Institute of Psychiatry in November 1993 with initial funding from the Bethlem and Maudsley Research Trust. Its research and other activities are supported by the Medical Research Council, the Department of Health and other funders.

The Centre promotes, conducts and disseminates health economics research in the field of mental health, broadly defined. Its central focus on mental health economics is, we believe, internationally unique. Researchers at the Centre are well-placed to make multidisciplinary contributions as well as applying the economist's evaluative techniques to the topic of mental health policy.

The current range of topics covered by the Centre's evaluative work includes drug therapies and compliance, residential care, services for treating drug misuse, interventions for depression, and child and adolescent psychiatry.

Other research interests include the application of econometric techniques in exploring variability in cost and outcome data generated in evaluative work and the use of contingent valuation surveys to assess mental health care outcomes.

For general enquiries about the CEMH, contact Daphne Hargreaves on 0171 919 3198.

To find up-to-date details of the PSSRU's work on the Internet, visit the Unit's World Wide Web site —  
<http://www.ukc.ac.uk/PSSRU/>  
The CEMH is at  
<http://www.iop.bpmf.ac.uk/home/depts/psychiat/cemh/cemh.htm>  
Both sites include email facilities for staff and links to other useful Web sites.

## The Mental Health Research Review No. 4

This fourth issue of the *Mental Health Research Review* is, like the three previous editions, a joint production by the Personal Social Services Research Unit (PSSRU), and the Centre for the Economics of Mental Health (CEMH) at the Institute of Psychiatry.

It describes research in the mental health field currently underway at one or both institutions. The aim is to summarise research objectives, methods and findings in a concise and readable form, as a general introduction to our work. The *Review* also serves as a reference point for the concepts and tools which are frequently employed in PSSRU and CEMH studies of the economics of mental health.

The *Review* is sent free of charge to local authorities and health authorities and to interested individuals in the UK. Further copies can be ordered from Daphne Hargreaves at the CEMH (0171 919 3198) or Clare Valentine (01227 827773) at the PSSRU. If your mailing details are incorrect, please let us know. There are limited copies available of issues two and three; issue one is out of print.

Enquiries about individual articles should be made to the authors. We welcome comments and suggestions about the *Review*; they can be addressed to the co-editors of this issue, Angela Hallam and Martin Knapp. The views expressed are not necessarily shared by bodies funding the research.

### Contributors to this issue

	Telephone	email
Jennifer Beecham	01227 823792 / 0171 740 5273	sptejkb@iop.bpmf.ac.uk
Ailsa Brown	0141 201 4440	
David Challis	0161 275 5222	D.J.Challis@man.ac.uk
Daniel Chisholm	0171 919 3503	D.Chisholm@iop.bpmf.ac.uk
Angela Hallam	01227 827844 / 0171 740 5326	sptejajh@iop.bpmf.ac.uk
Andrew Healey	0171 740 5322	spteath@iop.bpmf.ac.uk
Juliet Henderson	0171-740-5312	sptejah@iop.bpmf.ac.uk
Peter Huxley	0161 275 5221	Peter.Huxley@man.ac.uk
Shane Kavanagh	01227 823877	S.M.Kavanagh@ukc.ac.uk
Martin Knapp	0171 955 6225 / 0171 919 3174	Knapp@lse.ac.uk Knapp@iop.bpmf.ac.uk
Ana Lowin	0171-740-5314	
Paul McCrone	0171 919 2607 101472.2621@compuserve.com	
Justine Schneider	01227 827891 / 0171 703 5411	J.Schneider@ukc.ac.uk
Alan Stewart	01227 823260	A.Stewart@ukc.ac.uk

**CEMH general email:** [cemh@iop.bpmf.ac.uk](mailto:cemh@iop.bpmf.ac.uk)

### Other publications from the CEMH and PSSRU

A selection of CEMH working papers, PSSRU discussion papers, and journal articles are detailed throughout this Review. The PSSRU also publishes a book series in conjunction with the Ashgate imprint; monographs; and newsletters on various subjects:

- Issue 10 of the *PSSRU Bulletin* (number 10) is now available, covering the Unit's work as a whole. The PSSRU in Canterbury also stocks back issues of some previous editions.
- The fifth *Mixed Economy of Care Bulletin* (a joint production with the Nuffield Institute for Health at the University of Leeds) is also available.
- The PSSRU ECCEP project (Evaluating Community Care for Elderly People) publishes occasional newsletters.

For enquiries, publication lists, and orders, please contact Daphne Hargreaves for the CEMH

## Introduction

# **Economics of mental health: demand and supply**

Martin Knapp

In various shapes and forms, mental health economics has a higher profile than ever before. A glance at the calendar illustrates the change. For some years now, the US National Institute for Mental Health has organised a biennial conference on mental health economics, and has funded research and doctoral programmes at a number of leading universities. Since 1990, four conferences — each held in Venice — have concentrated on economic aspects of different mental illnesses, each successive event attracting a larger number of good quality papers from a wider range of countries.

Over the same period, many leading ‘mainstream’ national and international psychiatry conferences have started to accept health economics papers, and some now include at least one dedicated session on the subject. The leading mental health journals now publish quite a number of papers reporting the findings of cost-effectiveness and other economic evaluations. Mainstream health economics journals have for some time been publishing high quality research on mental health care systems, incentive structures and the like.

In the UK, both the Department of Health/National Health Service Executive and the Medical Research Council encourage researchers to investigate the economic as well as the clinical and social dimensions of mental health programmes. Indeed, government departments, medical schools, consultancy companies and the pharmaceutical industry in Britain, as in many countries, are now recruiting health economists as integral members of their policy, research or other teams. Others are making research funds available for cost-effectiveness and other economic studies carried out by university departments and others.

## **Demand and supply**

Each of these developments provides evidence of the recent growth of interest in and investigation of the economics of mental health — both an increasing demand for economic insights, and an increasing supply of robust research findings.

However, there are imbalances. Most obviously, and in most countries, the current demand for mental health economics far outstrips the available supply of completed research, policy advice or practical insight. Second, that supply is internationally unbalanced. Although there exist no statistics to provide verification, it is very probable that at least two-thirds of the economists contributing significantly to today’s research on mental health treatments, services and policies are based in the US, with small numbers in the UK, Netherlands, Canada, Sweden, France, Australia and elsewhere. Of course, the contributors to the *Mental Health Research Review* provide evidence of a healthy UK supply, but still one that cannot meet current demands.

A third imbalance relates to the nature of the health economics work which is underway, with economic evaluations of pharmacological treatments and cost of illness studies out-numbering other studies. In fact, outside North America there are disappointingly few economists looking at incentives, market structure or similar system-level issues.

## **PSSRU and CEMH**

The two research groups that have joined forces to produce this fourth *Mental Health Research Review* are conducting research and teaching across quite a wide spectrum. For some members of the groups cost-effectiveness and other 'micro' evaluations dominate their current schedules. Some others are more heavily engaged on policy analysis or systems research, on emerging mental health (quasi-) markets or the forces and incentives confronting key stakeholders. There are also colleagues working on different methodological or theoretical aspects of mental health economics.

Except for the tyranny of time constraints, these different activities are not mutually exclusive. Indeed, both at the Personal Social Services Research Unit and the Centre for the Economics of Mental Health we stress the links between practice and policy, between empirical endeavour and theory development, and between macro and micro perspectives.

Those links will be clear from this issue of the *Mental Health Research Review*. Compared to previous issues, we have more pages — a crude indicator of the volume of mental health economics work now underway in PSSRU and CEMH — and also more variety — a sure sign of the growing opportunities to carry out economics research in the mental health field. There are more contributors, partly because of our growing links with other groups. Finally, there are more academic and other publications to cite or list, which could mean many things.

I like to interpret this latter growth as a measure of both the quality of research and the publishing opportunities now offered by psychiatric and other journals.

### ***Mental Health Research Review 4***

All staff in the PSSRU and CEMH groups have contributed to the production of MHRR4, some of them enormously. Angela Hallam has made easily the largest single contribution to this issue, as (multi-) author, senior editor, chaser-in-chief and motivator. Nick Brawn, as ever, has been mainly responsible for the high-quality design and production of the *Review*. Both deserve hearty thanks for their skill and energy.

The views expressed in the *Mental Health Research Review* are those of the authors, and do not necessarily reflect the views of host institutions, the Department of Health, or other organisations which support the research.

### **PSSRU and CEMH policy on Discussion Papers and Working Papers**

Details of CEMH and PSSRU written outputs are given at various points in this Review. We aim to disseminate our findings as widely as possible, but both PSSRU and CEMH have to charge for papers. Therefore, if a paper is also published as a journal article or book chapter, we advise interested readers to obtain that publication from a library or bookshop.

CEMH Working Papers and PSSRU Discussion Papers, including those cited in this *Review*, may be purchased from Clare Valentine (PSSRU librarian, 01227 827773) or Daphne Hargreaves (CEMH, 0171 919 3198). They can supply a full list of our mental health research publications, together with information on charges.

# Costing London's mental health services

Daniel Chisholm, Ana Lowin and Martin Knapp

## Policy context

Mental health care policy in the UK has undergone unprecedented change over the past decade, the impact of which has been felt in all aspects of mental health planning, delivery, funding and evaluation. Proponents of reforms to the organisation and delivery of mental health care have emphasised the desirability of moving from a hospital to a community-based service, to organise services within a more contestable (competitive) environment, and to focus more explicitly on the needs of people with mental health problems, in particular those with severe and enduring mental illness.

Fuelled by a series of tragic incidents involving former psychiatric inpatients, critics of the current system have pointed to the fragmentation and lack of coordination surrounding existing financing and delivery arrangements. These difficulties can be exacerbated in metropolitan and inner city areas where there are often concentrations of mental health needs but not the range of services available to meet them. There has been widespread discussion as to whether the provision of mental health services in London is particularly or differentially disadvantaged in terms of a lack of resources to meet the particular needs of its population.

## Research context

Research by CEMH fed directly into the mental health project of the reconvened King's Fund London Commission, the aim of which was to bring together the best available information on the mental health service needs of Londoners and how far current services meet these needs (see Johnson et al., 1997). The costing element of this project set out:

- to establish the cost implications of existing mental health service provision in London; and
- to compare these derived costs to the costs associated with predicted service requirements.

The research built on a survey of inpatient hospital and residential provision carried out by PRiSM (Institute of Psychiatry), and complemented other commissioned work by the Centre for Mental Health Services Development (a framework for the development of comprehensive, needs-based services and a survey of managers' views of barriers to change), and the Royal College of Psychiatrists Research Unit (findings from recent inquiries, enquiries and reports, as well as service trends apparent from routine data).

## Inpatient and residential provision in London: actual versus predicted costs

Data on the number of adult inpatient and residential care places in all London boroughs were collected by PRiSM from local authorities and NHS mental health provider trusts in the first three months of 1996. Unit costs, gleaned from a range of research sources, were attached to these estimates of service activity to give the total costs associated with current provision. Reported costs were then compared to (similarly costed) estimates of service requirements predicted by an index of mental health need (MINI) on the basis of local socio-demographic

characteristics (Glover et al., 1996).

Actual versus predicted costs, and the differential that exists between them, are given in table 1. The total costs associated with actual reported levels of current hospital inpatient and residential care provision across all London boroughs amounts to £312 million:

- inner London boroughs consume £137 million, of which hospital services make up £78 million and residential care (including the category of hostel wards) £59 million
- costs in outer London boroughs total £175 million, split between hospital service provision of £86 million and residential provision of £90 million.

By comparison, total predicted costs reach an estimated £391 million, split evenly into £195 million for both inner and outer London boroughs, suggesting therefore an overall negative differential of some £79 million. However, this overestimates the difference because of missing service activity data for regional secure units (six inner, two outer boroughs) and residential care (one inner borough). Our best estimate is a differential of £59 million, which is the figure reached for services that could be directly compared. This tallies closely with the differential derived by building in the estimated cost implications of these missing elements of actual service activity (£18.5 million), based on the mean costs of provision from boroughs for which data were available.

The clear picture emerging from our analyses is one of negative differentials, indicating large-scale under-provision of services (that is, the costs associated

**Table 1**  
**Inpatient hospital and residential provision: actual, predicted and differential costs (inner and outer London boroughs)**

Cost descriptions (£ million, 1995/96)	Inner London boroughs			Outer London boroughs			All London boroughs	
	Mean	Range	Total	Mean	Range	Total	Mean	Total
<b>Actual costs</b>								
Inpatient hospital care <sup>a</sup>	6.0	0.3 to 11.9	77.6	4.3	2.0 to 9.2	85.6	4.94	163.2
Residential care <sup>b</sup>	4.9	0.3 to 9.5	59.0	4.5	1.6 to 10.1	89.8	4.65	148.8
<i>Total</i>	10.9		136.6	8.8		175.4	9.59	312.0
<b>Predicted costs</b>								
Inpatient hospital care	8.6	0.2 to 13.0	111.1	5.8	3.0 to 9.3	116.1	6.89	227.2
Residential care	6.5	0.1 to 10.0	84.3	4.0	1.9 to 6.9	79.4	4.96	163.7
<i>Total</i>	15.0		195.4	9.8		195.5	11.85	390.9
<b>Cost differentials<sup>c</sup></b>								
Inpatient hospital care	-1.8	-4.8 to +2.3	-23.3	-1.4	-3.8 to +0.8	-28.1	-1.56	-51.4
Residential care	-1.5	-4.3 to +1.9	-18.1	+0.5	-2.5 to +3.8	+10.5	-0.24	-7.7
<i>Total</i>	-3.3		-41.4	-0.9		-17.7	-1.80	-59.1 <sup>d</sup>

**Notes**

a Missing service activity data on Regional Secure Units (six inner, two outer boroughs) means actual costs reported here are similarly underestimated.

b Missing service activity data on residential care (Borough of Camden) means actual costs reported here are similarly underestimated.

c The difference between the costs associated with reported service activity and the costs of suggested (MINI) service requirements.

d Reported total (£59 million) reflects differential for which actual vs predicted service costs could be directly compared.

with actual provision are *less* than the costs associated with predicted service requirements):

- The extent of under-provision is particularly stark in the Inner London boroughs — 9 of the 13 boroughs have negative differentials, and six of these are in excess of £3 million per annum; the mean deficit is £3.3 million;
- The situation in outer London boroughs is more varied, with twelve out of the 20 boroughs falling below the level at which actual and desired provision coincide. The mean deficit in these boroughs is less than £1 million (-£1.4 million, hospital care; +£0.5 million, residential care).

### **Full service configurations**

Over and above inpatient hospital and residential care, there are additional elements of a comprehensive mental health service (including day hospital and day care services, sheltered employment/work schemes and community mental health teams). In the absence of official recommendations or robust service activity data for day and community mental health services, it has not been possible to estimate any differential between actual and predicted costs.

However, we have derived a series of (unsubstantiated) range estimates for possible levels and costs of day and community mental health service components, which were combined in a number of different configurations. The total London-wide cost of these services ranged from £136 million to £267 million, demonstrating the very considerable cost implications of providing a comprehensive range of mental health services throughout the capital. Indeed, by adding these figures to the predicted costs for hospital and residential care, it can be suggested that a unitary agency with a remit to meet all the mental health needs of London's adult population would appear to require a budget in the region of £500-600 million.

### **Conclusion**

The economic evidence presented here echoes the conclusions reached by a series of other disciplinary contributions to *London's Mental Health*, namely that despite many instances of good practice and (relatively) high expenditure by purchasers, there is a considerable mismatch between (extremely high levels of) demand for services and current provision. Recent modifications to national

#### **Research implications**

- Across all London's boroughs, it is estimated that the costs of current inpatient and residential provision are £59 million less than the costs of predicted service requirements (£391 million)
- Estimates of the London-wide cost of day and community mental health care range from £136 million to £267 million, demonstrating the very considerable resource implications of providing a comprehensive range of services
- Together with other supporting evidence, these findings point to the need for a major overhaul of mental health services in the capital in order to cope with the high level of demand

resource allocation formulae (which will bring an additional £30 million to London's health services as a whole) are timely and welcome, but are not enough to wipe out the deficit with respect to mental health service requirements. Innovative and wide-ranging developments in the organisation and delivery of services are also required if the high and increasing levels of mental health need in London are to be effectively confronted.

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### **The mental health residential care study**

This completed collaborative study, carried out by CEMH and the Royal College of Psychiatrists Research Unit, analysed the use, costs and need for residential care for people with mental health problems. The evaluation was based on a survey in eight areas across England and Wales in 1994. Data were collected on the demographic, clinical and social characteristics of a total of 1951 people with mental health problems, accommodated in over 350 residential facilities (see Lelliott *et al.*, 1996). Alongside the epidemiological survey, an economic analysis was conducted that sought to establish the economic costs associated with residential provision, and to predict the resident, facility and area characteristics that have a significant bearing on cost (Chisholm *et al.*, 1997a, 1997b, 1997c; Knapp *et al.*, 1997a, 1997b).

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## Through a glass darkly: media images of mental illness

Angela Hallam

Public awareness of mental illness can rarely have been more acute. Acceleration of psychiatric hospital closure and the relocation of services to community-based settings have ensured the increasing visibility of people with severe mental health problems.

The general public is now familiar with psychiatric symptoms, diagnoses and the side-effects of medication in a way which would have been unthinkable in the days when mental illness was hidden behind institution walls. Greater exposure to the issues, however, appears to have had little effect in reducing the stigma associated with mental illness. Instead, negative attitudes have become increasingly entrenched, whether people with mental health problems are seen by the general public as victims of a cost-cutting policy initiative or as a potential threat to personal safety and security.

Work by the Glasgow University Media Group (GUMG) in 1993 included an audience reception study to trace the processes by which key messages about mental illness are received, and the conditions under which those messages are believed, rejected or reinterpreted. The relationship is a complex one, because the media exist within developing social cultures and are able to exploit key elements of those cultures which they have in part created. Although people are not blank slates on which messages are written, the GUMG found that even direct personal experience of mental illness could be overwhelmed by the potency of media images (Philo, 1993).

The power of the media is recognised and harnessed by the organisations which campaign for the interests and rights of people with mental health problems. Five of the national daily papers have circulation rates of more than one million, and therefore provide numerous opportunities for publicising mental health issues. At this level, the media can potentially be helpful in educating the public and politicians in the realities of mental illness. However, as acknowledged by SANE (Wallace, 1996), if the shortcomings of service arrangements are to be highlighted (at a micro-level), cooperation with the media is essential. Story content must therefore achieve dramatic effect. It is a fine balance to aim for in the prevailing climate of hostility and fear of mental illness.

Media specialists have identified the 'consensual model of society' used by the popular press. This assumes 'we' as a society share all interests in common and how 'we' should behave is exemplified by news stories which illustrate the finer qualities of the human spirit (Fowler, 1991). However, in order to place a fence around 'us,' the scales are overloaded with reports which cast 'them' (that shifting group of 'others' on the margins of society) in a bad light. Hence there is saturation coverage of homicides by people with mental illness (and, incidentally, by people without a psychiatric diagnosis, but who are dubbed 'mental,' 'maniac,' 'crazed' because of the nature of the act perpetrated). And, while it is obvious that examples of good practice do not sell papers (meaning we rarely read of successful service initiatives outside the academic literature), there is very little celebration of human achievements *despite* psychiatric problems.

Clearly incidents involving violence and homicide by mental health service users need to be publicised if lessons are to be learned and systems put in place to ensure major errors are not repeated. Lurid accounts of human timebombs and the use of pejorative terms associated with mental illness, however, can have no

positive influence on the lives of people with psychiatric problems. Furthermore, other tragedies receive little or no media coverage. Patient deaths associated with neuroleptic drugs run at four times the rate of homicides by people with mental illness, for example, yet such deaths and the relative statistics are rarely mentioned (MIND, 1994).

The debate on these matters has become unbalanced and an unbalanced debate carries risks. Service users are in danger of increasing public intolerance and policy measures concentrate on containing public fear through methods of control, rather than developing policy which responds to the whole picture of need and complex pattern of risk (Sayce, 1995).

The stigmatisation that people with psychiatric problems face as part of their daily lives increases the sense of isolation engendered by the illness itself. Negative images may hinder compliance with treatment until sufferers are in an acute phase of their illness. This has important ramifications, both for the quality of life for people with mental health problems and for the costs of care. Crisis treatment is expensive and acute services operate under constant pressure, particularly in inner city areas and, most notably, inner London (Johnson et al., 1997). Furthermore, if the user's support network has been eroded over time, there are long-term health and social care implications.

Examining the real cost of schizophrenia, Davies and Drummond (1994) report that Anderson et al. (1991) found the risk of suicide in people with schizophrenia was between 13 and 20 times higher than for people who did not have the illness. Research by the National Schizophrenia Fellowship, based on a register of press clippings kept by the organisation between 1991 and 1995, suggests that one in ten people with schizophrenia will take their own life: 25,000 of the people in the UK estimated to have this illness at any one time (Hogman, 1995). Ten per cent is also quoted as the lifetime risk factor for people with schizophrenia by the *Report of the Confidential Inquiry into Homicides and Suicides by Mentally Ill People*, 1996. If the Government target of reducing suicides by 15 per cent by the year 2000 is to be realised, ways must be found to reduce the stigma attached to mental illness. The current and potential roles of the media in mental health issues need to be systematically evaluated.

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# Residential care for elderly people: an exploratory study of quality measurement

Justine Schneider, Anthony Mann and Ann Netten

## Background

Residents of homes for the elderly are growing in frailty as more care is available at home and admission to residential care becomes a last resort. Residents who are physically or psychologically impaired may find it difficult to judge the quality of care which they receive, and their dependency may deter them from criticising this care. Moreover, a high proportion of residents of homes for elderly people have dementia, and may not be able to express themselves easily. Thus, the monitoring of residential care falls to outsiders, including relatives and local authority inspectors. This study set out to explore ways in which assessors, lay or professional, can better understand what constitutes good quality care. It also explores what good quality care might cost.

The aims of the study were to identify and test a number of possible measures of quality of care in residential homes. By applying an eclectic set of scales in a number of homes we tried to identify those measures which best discriminated between homes. We studied over 300 residents in seventeen residential homes across England, chosen for their geographical diversity. We analysed questionnaires from 230 relatives and a similar number of staff. The measures used included commonly-used instruments, less well-known instruments, and some tools devised for our purpose. No strict definition of quality was adopted a priori, but a pragmatic approach was taken, addressing the perspectives of residents, health and social care professionals, home staff, managers, and relatives. We included depression in residents as one indicator of quality, following extensive research into depression in residential homes (Mann et al., 1984). The data were analysed at the level of the residential homes, and scores for each home on over 100 variables are presented in the final report (Schneider et al., 1997).

## Findings

**Profile of homes and their residents** The sample of residential homes was not random, and too small to be representative, but the profile of the homes and their residents is probably fairly typical. On average, homes had 29 residents, with a mean age of 85, 24 per cent of them male. The residents were moderately disabled; 72 per cent had a mobility problem, 40 per cent had impaired hearing, and 46 per cent had impaired vision. Seventy nine per cent were judged to be confused and 37 per cent were very confused.

**Psychological well-being** Of the 194 residents who were able to respond to questions about depression, 40 per cent were depressed, and the range between homes was 21 per cent-60 per cent. Only 30 per cent of these cases were receiving anti-depressant medication. In four homes, no depressed resident was receiving anti-depressant medication at a therapeutic dose, and in two homes, nobody was receiving anti-depressants at all even though at least 21 per cent were depressed. Our findings concerning high levels of depression echo those made 20 years ago, which shows a continuing lack of detection and treatment of this disorder.

**Medication** Many drugs can have undesirable side effects in elderly people in the longer term. Most residents were taking three or four different medications,

47 per cent were taking analgesics, 35 per cent diuretics, 23 per cent hypnotics, 19 per cent major tranquillisers, and 18 per cent anti-depressants. There was considerable variation between homes in the prescribing of psychotropic drugs, such as major tranquillisers (5 per cent-28 per cent), hypnotics (0-38 per cent), and common prescriptions to help physical disorders, such as analgesics (25 per cent-75 per cent), and diuretics (12 per cent-60 per cent). This variation in prescribing practice was not explained fully by differences in the health status of residents. High use of major tranquillisers suggests that they may be used to treat behavioural problems sometimes associated with dementia.

***Physical care and psychological welfare*** We found that common health needs such as immobility, instability, deafness and visual impairment were not always properly treated. However, it is notable that residents whose physical needs were well cared-for had a significantly lower level of depression than those whose physical needs were less well met. The positive association between good physical care and low depression score proved robust and greater than that between low depression score and any other factor.

***Social, occupational and physical environment*** Provision of opportunities for daily occupation and social activities was thought to be an important aspect of a home's environment. Residents' interviews showed that the proportion of people participating in common pursuits (reading, socialising, domestic tasks) was much lower than for elderly people aged 70 or over living in their own homes. Of course the level of disability in the latter group would be lower than for people in our study.

***Staffing considerations*** There was a five-fold variation in the official staff-to-resident ratio for total staffing levels in the homes (0.11 — 0.58 for all staff; 0.05 — 0.25 for care assistants only). While the sample of homes was small and not nationally representative, sickness levels were higher in the local authority homes than in the private and voluntary homes. The fact that private and voluntary home staff seldom receive sick pay might be a disincentive to taking time off.

Less than 1 per cent of all home staff had formal qualifications, and they were usually the managers. The mean length of service for staff was about seven years (range 1-11 years). The age profile of homes' staff differed considerably; some homes had nearly half of their staff under the age of 30, while others had as few as 8 per cent under this age.

***Policy and documentation*** It is possible that excellent policy, procedures and documentation may not be reflected in excellent care. We evaluated care plans on four dimensions — physical, emotional, social and cultural; and set a review within the past 26 weeks as the criterion for a plan to be 'up to date'. Two homes showed outstanding scores in the care plan analysis, with a third demonstrating a deficit in the religious and cultural aspects of its care plans, but otherwise scoring well. However, high standards of documentation were relatively rare.

***Visitors' satisfaction*** Most visitors to the home were the offspring of residents, and 68 per cent had been the resident's former carer. Nearly half of the visitors went to the home one or more times per week. A minority — 30 per cent — stated that they offered what might be termed informal care; taking the resident out, doing chores, or personal care tasks, although frequent visitors provided more informal care than others.

***Costs*** Costs were analysed in detail for each home, using its accounts for 1994-5. There was some expected variation between sectors; local authority provision typically cost more than voluntary provision which in turn cost more than private provision. On average the local authority homes cost £282 per week per resident;

the housing association homes £247 per week; and the private homes £208 per week. A different pattern emerges, however, when additional services are considered. Residents in privately run homes incurred significantly higher additional service costs (excluding inpatient and outpatient costs: £15 per week compared with £6.88 per week). Overall, these services resulted in an additional 8 per cent on revenue costs compared with three per cent for other providers.

The sample local authority homes average revenue cost (£266) was rather less than the most recently available national average of £303. The discrepancy may reflect, in part, the fact that expenditure data on which this estimate is based would not have been adjusted to allow for the provision of services for non-residents. For private homes information is only available about average levels of fees rather than costs. The average fee income of the sample private homes was £227, the same as the national average of £228 during 1994/5 (Laing and Buisson, 1995). There is no information about national levels of voluntary provider unit costs. An interesting finding from our data was relatively high consumption of community health services by residents in private homes. If this were found more generally, it would have implications for the local health service, in view of the trend towards the increasing use of private provision for publicly-funded residents.

**Ranking analysis** We attempted to synthesise our findings by ranking the homes on 25 variables which were independent of each other and which showed variation across the homes studied. Several homes performed consistently better. Of course, the lower ranking homes are not less good in an absolute sense, but only relative to the higher ranking homes. The significance of this exercise was that we could not predict good performance on the ranking analysis from researchers' opinions nor from the number of residents' or visitors' criticisms. Therefore, any relationship between objective indicators and subjective opinions, be they those of relatives, researchers or residents, remains to be proven. Furthermore, those homes ranked highly on our indicators did not have higher costs than the other homes.

### **Policy implications**

- The appropriate use of medication in homes is an issue for further investigation.
- Brief instruments to screen residents for depression should be administered routinely in homes.
- Psychological well-being is closely associated with physical care. This indicates a need for health care training for residential home staff.
- Audit of care plans should form part of inspections and evaluations.
- The provision of activities for people with dementia is a challenge for all concerned.
- Development of methods for eliciting visitors' knowledge about homes would enhance assessments of quality of care.
- Any home which is not actively training staff must give cause for concern.
- The impact of residential homes on primary health care services may need to be taken into account in funding health services.
- Homes which consistently performed better on our indicators did not have significantly higher overall costs than those which performed less well.

## Conclusion

On such a multi-dimensional concept as quality, unanimity would be impossible to achieve. This study extends our understanding of the dimensions of quality in residential care for elderly people and of how these dimensions may be measured.

**Policy implications** Policy concerning residential care directly touches the lives of many people; residents, relatives, staff, owners and inspectors. Some policy implications drawn from this study are shown in the box opposite. These inferences are justified by the evidence collected for this study since the homes were on the whole judged to be superior, were willing participants in the study and yet appeared to have room for improvement in many of these respects.

## Acknowledgements

Data analysis was conducted by Bob Blizzard, Medical Statistician, who, like Professor Anthony Mann, is based at the Institute of Psychiatry, University of London. The other researchers were Caroline Mozley (Department of Psychiatry, University of Manchester), Enid Levin (National Institute of Social Work) and Alison Abbey, Rachel Egelstaff, Kalpa Kharicha, Carein Todd and Catherine Topan (Institute of Psychiatry).

The tolerance, cooperation and patience of homes' managers, staff, residents and visitors is gratefully acknowledged. The research team also extend their thanks to the NHS project manager and to the project advisory group, chaired by Lady Gillian Wagner. The grantholders were Professor Anthony Mann, Enid Levin and Dr Ann Netten. The research was funded by the NHS Research and Development Directorate between March 1994 and February 1996.

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### **PSSRU/CEMH research on services for people with dementia**

The PSSRU/CEMH papers and journal articles below give details of research in related areas.

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# Estimating the economic value of outcomes in the pharmacological treatment of depression

Andrew Healey and Daniel Chisholm

## Policy context

Depression places a major burden on society both in epidemiological and economic terms (Meltzer et al., 1995; Kind and Sorensen, 1993; Jonsson and Bebbington, 1994). In terms of the treatment of major depression with drug therapies, two key prescribing policy issues have arisen in recent years.

Firstly, there has been the development of a new class of anti-depressants known as selective serotonin re-uptake inhibitors (SSRIs) — fluoxetine (Prozac) is perhaps the most well known example. Many of the SSRIs have been shown to be equally effective in alleviating the symptoms of depression when compared with the traditionally prescribed tricyclic anti-depressants (TCAs) (Song et al., 1993). Moreover, it has been claimed that they have better side-effect profiles, which will also lead to greater tolerance to treatment amongst patients (for a review of side-effect evidence, see Lader, 1996), and that the lower toxicity of SSRIs may prevent fatalities caused by suicidal or accidental overdose (Freemantle et al., 1994).

Despite the apparent advantages of switching to SSRIs, they are a considerably more expensive prescribing option. To put things into perspective, Hotopf et al. (1996) estimate that the annual NHS anti-depressant prescribing bill would increase from £88 million to £250 million if all patients currently on TCAs were switched to SSRIs — an increase which comes close to funds allocated to all new treatments and innovations in the NHS in 1994. The jury is still out on what would be the overall net impact on health and social care costs from prescribing SSRIs and TCAs. Having conducted a retrospective quasi-experimental study of patients using Sertraline (an SSRI) versus patients on a range of tricyclic drugs, Forder et al. (1996), concluded that TCAs were a significantly more expensive prescribing option in terms of overall costs. However, this result was not repeated in a US randomised controlled evaluation of fluoxetine versus tricyclic drugs in which no significant cost differences were found (Simon et al., 1996).

A second important issue concerns recommendations made for maintaining people with a history of major depression on anti-depressant therapy over an extended period of time, including periods of remission. The World Health Organisation advises that maintenance therapy should be offered to patients with more than one severe episode of depression during the previous five years. Treatment is recommended for *at least two years* (WHO, 1989). The rationale behind maintaining people on a dose of anti-depressants is to reduce their risk of relapse. For example, a major clinical trial conducted in the US by Frank et al. (1990) suggested that with preventive therapy the risk of a recurrence of depression falls from 80 per cent to 20 per cent. Again, the benefits attributed to maintenance treatment should not be considered in isolation from the potential costs of keeping people on a prescribed course of medication over an extended period of time.

Both policy options highlighted above are costly to the extent that they will use up scarce public resources that could be put to other valued uses. Before adopting proposed changes in prescribing policy it is important to establish whether any derived benefits — relating to drug side-effect profiles, safety and illness prevention — are valued more highly than the costs incurred.

## Research methodologies

In order to establish the value that people attach to the outcomes from their own private actions or from public policies, it is important to determine the trade-offs they would be willing to make to experience any resultant improvement in their level of wellbeing. More specifically, economists measure changes in individual wellbeing with reference to the change in a person's income that would leave them indifferent between their pre- and post- change circumstances. This is equivalent to determining the maximum amount an individual would be willing to pay for improvement in their wellbeing, or conversely, the minimum compensation they would accept for a decrease in welfare.

Economists have developed two main approaches towards the measurement of these income-welfare trade-offs:

- The 'revealed preference' method relies on the existence of day-to-day market transactions that people make when purchasing goods and services or in any private decisions where there is an implied trade-off between income and personal welfare. However, the nature of many goods provided on a collective basis by public agencies (e.g. road safety; environmental improvements; health care) means that the income-wellbeing trade-offs necessary for establishing the value of policy interventions to society are either not directly observable or inappropriate for use in a benefit valuation context.
- Where the revealed preference method cannot be used, 'stated preference' techniques provide a means of valuing policy outcomes. They involve surveying a representative sample of individuals from the population who would benefit from some policy intervention, and asking them to make a series of hypothetical trade-offs that allow their preferences for outcomes to be determined (e.g. Mitchell and Carson, 1989; Kroes and Sheldon, 1988). Whilst this general approach has been criticised because of the hypothetical nature of trade-offs which people are asked to make, it provides the only alternative means of generating benefit valuation estimates. Stated preference methods are enjoying increased application across a wide range of policy areas, including environmental improvement/damage assessment, road safety and health care.

## Estimating economic values for the health and safety implications of anti-depressants

Against an uncertain health policy background in relation to the full costs and benefits of SSRIs, CEMH is currently undertaking a research project applying stated preference techniques to determining the *economic value* of SSRIs versus TCAs for the treatment of major depression, and the value of preventive versus 'no treatment' strategies for managing recurrent depression. Although the study is primarily concerned with producing data that can inform policy, we will also explore the validity of survey responses. Whilst the derivation of money values for health outcomes would provide a convenient means of quantifying the benefits of prescribing options, it would be wholly inappropriate to recommend their application in important resource allocation decisions if they were found to be implausible representations of economic preferences and values.

The most commonly adopted stated preference approach for valuing public policy outcomes has been the contingent valuation method, in which respondents are asked to indicate directly the maximum amount they would be willing to pay for a given improvement in their own wellbeing. However, recent studies have cast doubt on the validity of responses to contingent valuation questions as measures of the economic value of wellbeing improvements (see, for example, Diamond et al., 1993). For this reason it was decided that an alternative stated

preference method would be adopted, namely the 'transfer price' approach. Here, respondents are asked to state their preferred option (e.g. from two drugs treatments) which differ in their characteristics, including a (hypothetical) cost element which respondents are told they would have to pay. The cost attribute of a respondent's preferred option is varied until indifference/equivalence of preference is reached, at which point the value of the preferred option can be determined.

Preferences are to be elicited from a random sample of 300 members of the general public via face-to-face interviewing. The reasons for sampling this population rather than exclusively patients and/or people with a history of depression are two-fold:

For the purposes of cost-benefit analysis, it is important to incorporate the preferences and values of *all* individuals affected by a policy change. As with any type of health care, antidepressants will be demanded by people who are either current users or more commonly by *potential* users of a treatment — including members of the public with and without a previous history of depressive episodes.

In a climate of public sector accountability it seems reasonable to seek the preferences and values of a representative cross-section of all those who ultimately fund the NHS (i.e. taxpayers) regarding decisions that are likely to have important health care resource implications.

When completed, the project will be the first attempt (as far as we aware) at applying the transfer price method to determining societal willingness-to-pay for a specific health care intervention. The research programme started in September 1996. Subsequent to pre-testing, the main survey should be completed by the summer of 1997. The results of our survey data analysis, together with any implications for policy, will be available early 1998.

The research described in this article is funded by Pfizer Limited and is being conducted in collaboration with colleagues at Social and Community Planning Research (SCPR).

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## **Efficiency and Effectiveness in the Delivery of Community Care**

A programme of research was carried out by the Social Work Research Centre, Stirling University, to evaluate the early implementation of the community care provisions of the 1990 NHS and Community Care Act. The main study focused on the operation of care management in four of the former regions in Scotland. It examined the activity relating to 247 individual cases in contrasting models of care management and sought the perspectives of practitioners, users and carers (Petch et al., 1996). The process of assessment and the subsequent care packages received by individuals were costed and analysed by the Centre for the Economics of Mental Health.

### **Main findings**

- The implementation of care management in Scotland has been variable, particularly in relation to stages other than assessment. At the macro level two main models have emerged (care management as a 'role' and as a 'task'); at the micro level diversity is the norm. Particularly where care management is carried out by a worker alongside other tasks there has been little attempt to target care management on the more complex cases.
- A needs-led philosophy has emerged gradually, but has not yet been embraced by some referrers. Users' opportunities for choice are perhaps inevitably restricted.
- Clear separation of purchasing and providing has been sporadic. Budgetary devolution has not been widespread; where it has occurred it has facilitated individualised response to need. The recording of unmet need was encouraged where access to a budget facilitated the development of provision for meeting it.
- Users and carers expressed appreciation of the time and care that workers took to listen to them during the assessment process. They could be frustrated, however, with the delays in practical outcome and were uncertain as to the status of monitoring and review.
- Costs of assessment, provision and support varied by care group and nature of provision, but there was no significant variation between different regions, or different models of care management. Statistical analyses revealed no association between the costs of assessment and subsequent service package costs. Once a service package was in place, accommodation and associated care accounted for 80 per cent of the total cost of care, on average, but a range of services was used independently of accommodation arrangements.

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Petch, A., Cheetham, J., Fuller, R., MacDonald, C. and Myers, F. with Hallam, A. and Knapp, M. (1996) *Delivering Community Care: initial implementation of care management in Scotland*, The Scottish Office, Edinburgh.

# Economic effects of hepatitis B vaccination in drug misusers in England and Wales

Alan Stewart

Drug misusers are susceptible to a wide range of health problems. Those who inject drugs are particularly liable to a variety of viral infections such as HIV and all forms of hepatitis (Gruer et al., 1991; Hart et al., 1991). Such infections have serious long term consequences for the health of individuals and for the demands placed on health care resources. One method of reducing the long-term incidence of severe health problems and the consequent need for high cost treatments is by a programme of vaccination of 'at risk' persons (Szmunes et al., 1980). Several studies have demonstrated the prevalence of hepatitis B infection among high risk populations (Gruer et al., 1991; Hart et al., 1991; Levine, et al. 1994) and the ease with which it spreads where persons engage in particularly risky activities such as needle sharing.

This study constructed a decision analysis model to estimate the economic effects of implementing a programme of hepatitis B vaccination among the population of drug misusers. The model is based on published sources for information on efficacy, treatment patterns and resource usage (Dusheiko and Roberts, 1995; Bloom et al., 1993; Mulley et al., 1982). The costs evaluated are those for hepatitis B-related direct health care costs only: all indirect costs and all health care costs for other illnesses are excluded. A time limit of ten years is set in this evaluation, with all costs discounted at six per cent per annum, to produce a figure for the present value of total costs. Without vaccination, infection could result in illness requiring high cost intervention, such as liver transplants and treatment with interferon alpha.

The model incorporates several other key assumptions: all courses of vaccination are completed; the vaccine is effective in 90 per cent of cases (Bloom et al., 1993); and incidence of acute infection is 50 per cent over ten years in high risk adults.

Estimates of the number of injecting drug users were set at four separate levels:

- i. 20,600 — estimate from DH (1993) quoted in *Social Trends 1995* (Central Statistical Office, 1995) for numbers who had used services in previous six months;
- ii. 51,900 — lower estimate (England and Wales) by Durant and Heptonstall (1995), *Communicable Disease Review*, 5, R40-44;
- iii. 77,700 — upper estimate of study quoted above;
- iv. 84,000 — Middlesex University, mapping exercise.

## Research implications

- Hepatitis B infection has very high cost implications
- Vaccination programme generates high level of early costs
- Vaccination reduces morbidity
- Substantial costs saved in later years

## Summary results

The conclusion was that a programme of vaccination would be expensive to implement, but was cost saving in the long run, by reducing the direct health care costs associated with hepatitis B infection (table 1). Vaccination reduces the numbers of persons who in future years will require high cost treatments such as interferon-D (costed at almost £2,000 per patient per year) or liver transplantation (costed at over £30,000 per patient). Implementing this programme would absorb funds in the short term, but in future years would greatly reduce the burden on health care purchasers.

**Table 1**  
**Costs and savings of vaccination programmes**

Size of population	Costs (£) at 0% vaccination	Costs (£) at 100% vaccination	Savings (£) at 100% vaccination
20,600	2,535,935	1,731,232	804,703
59,100	6,388,966	4,361,684	2,027,282
77,700	9,564,947	6,529,916	3,035,031
84,000	10,340,477	7,059,368	3,281,109

*Note*

All costs quoted include the costs of the vaccination programme

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## Care of people with severe learning disability

Shane Kavanagh and Lou Opit recently completed a review for the Mental Health Foundation on care of people with severe learning disability. The review was based on a combination of literature review, collation of national statistics on provision of residential care and secondary analyses of the OPCS Surveys of Disability. Detailed estimates of the prevalence, the balance between care settings, the degree of disability, levels of care and service utilisation were made. In addition, a comprehensive costing exercise furnished estimates of costs by care setting, funding agency and degree of disability.

Key findings include:

- the prevalence rate is 3.5 per 1,000 population
- the majority of people live in households, often imposing heavy burdens on carers
- the total costs of care for Great Britain were in excess of £3 billion annually

Several papers are currently submitted for publication. For further details contact Shane Kavanagh at the PSSRU (01227 823862) or Lou Opit at the Centre for Health Services Studies, University of Kent at Canterbury (01227 823677).

### Further publications

Details of other CEMH/PSSRU research on people with learning disabilities can be found in the following publications:

Cambridge, P., Hayes, L., Knapp, M.R.J., Gould, E. and Fenyo, A. (1994) Living in the community after leaving long-stay hospital, Findings 57: Social Care Research, Joseph Rowntree Foundation, York.

Kavanagh, S. and Opit, L. (1996) The prevalence, balance of care, costs and cost-effectiveness of care for people with learning disabilities in Great Britain, Mental Health Foundation.

Cambridge, P., Hayes, L. and Knapp, M.R.J. 'Care in the Community' five years on, 1997 Trends, Tizard Learning Disability Review, 1, 3, Tizard Centre, University of Kent at Canterbury.

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## Mental Health Economics: Short Courses

The Centre for the Economics of Mental Health (Institute of Psychiatry), together with members of staff from the Personal Social Services Research Unit (University of Kent and LSE), will be running five courses in mental health economics at the Institute of Psychiatry over three consecutive days in September 1997. These will illustrate the principles of economic evaluation as applied to mental health care.

The courses, which may be taken singly or in any combination, will be relevant to managers, researchers, clinicians and other mental health professionals. Each will equip participants with an understanding of the key principles and modes of mental health economic evaluations and how these principles can be applied to their own areas of interest or expertise. They will be intensively staffed, with opportunities for informal discussion with CEMH/PSSRU researchers.

### **Introductory course** **23 September 1997** **Introduction to mental health economic evaluation**

This one-day course will provide an introduction to the underlying context and principles of mental health economic evaluations. Topics will include: policy and practice contexts for evaluations; definition, identification and measurement of costs and outcomes; modes of economic evaluation; methods of analysis; illustrations of applications and study design.

### **Half-day courses** **24 and 25 September 1997** **Specialist mental health economic evaluations**

Four half day modules will run on 24 and 25 September (two per day). Each will have a specialist focus: schizophrenia; depression; children and adolescents; and community-based care. The courses will demonstrate how economic evaluation has been applied to key policy and practice issues facing decision makers in today's mental health services.

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# The lifetime cost of childhood conduct disorder

Juliet Henderson

## Introduction

Conduct disorder has been identified as the most common psychiatric condition among children. Typical antisocial behaviour associated with conduct disorder includes disobedience, aggression, violence, lying and stealing. Parents and teachers find it increasingly difficult to deal with this behaviour as children grow older. Longitudinal studies have revealed that a large percentage of children with conduct disorder grow up to leave school with few qualifications, frequently move in and out of low-skilled occupations marked by periods of unemployment. Moreover, at-risk behaviour such as drug and alcohol abuse is common among this group and there is a high incidence of depression.

Special education, inpatient and out-patient care and social services costs are often particularly high for this group once the problem is recognised and responded to (Light & Bailey 1993; Beecham, Knapp and Asbury 1994). However, little is known about these costs and even less about the longer-term service use. Therefore, there is a need for a more comprehensive understanding of the lifetime costs of conduct disorders both for the health service and individual families.

The evaluation of the costs of childhood conduct disorders described here is a collaborative research effort between the Department of Child Psychiatry at the Institute of Psychiatry and the Centre for the Economics of Mental Health.

## Aims

One part of the work is to apply instruments already developed through previous research on parent management training to measure cost effectiveness of a psychotherapeutic treatment for children aged 3-8 with conduct disorders.

The main part of the study aims to develop a model of lifetime costs of conduct disorders to the health service and society and to apply this model we will be studying two longitudinal samples:

- 1 *The Camberwell Cohort Study 1970*. Two hundred 10 year olds (100 with antisocial behaviour and 100 controls.)
- 2 *The Twins Study 1948-1982*. Sixty-five twins diagnosed with conduct disorder and their co-twins.

These studies provide a unique opportunity to gain retrospective service use data from children with conduct disorders. Available data will be used to appraise all cost implications for individuals who had conduct disorder as a child compared with controls.

## Method

In the psychotherapy trial a semi-structured interview will be administered to 100 mothers with affected children who are taking part in a random controlled trial of parent training. The interview will be adapted from the CSRI (Client Service Receipt Inventory) developed and applied in other mental health fields (Beecham and Knapp 1992). It will collect service receipt information from mothers. These services will be from both statutory and non-statutory agencies.

Costs will be calculated separately and the two sets of data amalgamated. The comprehensive service use interview will additionally cover childcare arrangements which were necessary as a result of the conduct disorder.

To calculate the lifetime costs of conduct disorders, an older age group is required. Data will be carefully analysed from the Camberwell Cohort (1970) and the Twins Study (1948-1982). The activities and services used by people in these studies will be costed from *Unit Costs of Health and Social Care 1996* (Netten and Dennett 1996) and the forthcoming 1997 volume, along with calculated expenses for individual cases. These expenses will be compiled by liaising with relevant agencies to cost their services. The agencies will include the police, judiciary services, health services, unemployment and local authorities dealing with housing benefit. Results will be available over the period until April 1999. Please contact Juliet Henderson at CEMH for any additional information. This research is being conducted in collaboration with Dr Stephen Scott (Department of Child Psychiatry) and Professor Martin Knapp (CEMH).

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# Costs and treatment for pre-school children with oppositional defiance disorder

Jennifer Beecham and Catherine Topan

## Background

As part of a three-year programme of research investigating services for the mental health of children and young people, the specialist mental health services received by 283 children with oppositional defiance disorder (pre-school conduct disorder) have been described and costed (Beecham and Topan, 1996).

Services in three contrasting health districts were asked to provide information about children using their services over the past twelve months whose behaviour was similar to that described in an illustrative vignette (see box 1). Eight services also provided information on care activities and costs:

- four hospital-based multidisciplinary *child and adolescent psychiatry teams* containing between seven and ten staff from five to eight disciplines;
- three hospital-based *child psychology teams* with between one and three members of staff including trainees; and
- one *behavioural clinic* staffed by a health visitor and psychiatrist and offered for two sessions each week.

The long run marginal opportunity cost of each service was calculated using service-specific data (Knapp, 1993; Beecham, 1995) supplemented with estimates from other sources (Beecham et al., 1994; Netten and Dennett, 1995). The service costs were adjusted to reflect the fact that most children received treatment from only one professional (89 per cent). The mean unit cost estimates for each service type at 1994-95 prices were:

- psychiatry teams, £20.50 per therapist hour
- psychology teams, £13.40 per therapist hour
- behavioural clinic, £18.80 per therapist hour

## Service receipt

The children with oppositional defiance disorder who attended one of the eight services described above were aged between four months and 5¼ years (mean age 2½ years). Nearly 70 per cent of the sample were boys. About half the children came from one of the districts (148), just over half were treated by members of the child and adolescent psychiatry teams, and three-quarters had been referred to the specialist services by their general practitioner or health visitor. Within the specialist services, 100 assessments (35 per cent) were undertaken by psychologists: health visitors, child psychiatrists and psychiatric

### Research implications

- Children with oppositional defiance disorder are routinely treated by a range of professionals, whose services may be delivered in a variety of ways.
- The frequency and duration of treatment received also varied. Although not measured in this study, we would expect to see associations with the children's needs and the severity of their disorder.
- More costly treatments appear to be associated with improvements in the children's condition.

social workers each undertook 13 per cent of the assessments. Fourteen per cent of all assessments involved two professionals.

For 201 children, we have data on the number of treatment sessions they received. The mean number of sessions was 4.5 (median = 3) and the range was wide — between one and 30 sessions. An unexpected difference appeared when comparing children who had been discharged with those who were still receiving treatment at the time of data collection. Non-discharged cases (42) had already received, on average, more treatment sessions (mean 6, range 1-20) than those who had been discharged (mean 4.2, range 1-30;  $p=0.037$ ). Non-attendance was cited as the main reason for discharge, although some children had been referred to other services. Data on whether treatment had been completed were cross-tabulated with the children's discharge status. Eighty-three discharged children were considered by service personnel *not* to have completed their treatment. Conversely, four children who had not been discharged were reported as having completed their treatment.

Mean and median session lengths were 45 minutes, although the shortest sessions were 20 minutes and the longest took three hours. Of the 868 treatment sessions for which we have duration data recorded, 28 per cent were with the paediatrics service, 66 per cent with the psychiatry teams and six per cent were with the psychology teams. About a third of the children (83) attended for treatment monthly, 56 received treatment fortnightly and 23 attended each week. The most commonly seen therapist was a clinical psychologist but health visitors, medical officers, child psychiatrists and psychiatric social workers all played a large role in the children's treatment. Behaviour therapy was the most common intervention (177 children).

### The costs of treatment

The costs of treatment received by 195 children with oppositional defiance disorder were calculated using the service-specific costs and information on the frequency and duration of contact for each child. The mean cost of a treatment session across all service types was £14.40. The minimum and maximum costs

#### Box 1

##### A child with oppositional defiance disorder (pre-school conduct disorder)

Jason, aged 4, is the youngest of three children. His parents have had a long history of difficulties, with father often being out of work and spending a high proportion of the family budget on alcohol. Despite this and despite episodes during which the marital relationship would deteriorate sharply, Jason's parents managed reasonably well with his two elder sisters who were developing satisfactorily. Following Jason's birth his mother was depressed for some months. Jason was described as being far more difficult than his sisters. He slept poorly and was difficult to feed. He was often colicky but there were also times when he could be extremely affectionate. Starting from age two he began to be extremely demanding, with frequent temper tantrums which exhausted his mother and often led to smacks from his father. Due to his behaviour and its effects on the family, he was given a place in a day nursery when aged 2½. He was extremely spiteful to other children, often biting. He seemed unable to share toys nor accept any of the nursery rules. After six months, due to complaints from other parents, he was transferred to another nursery. The aggressive behaviour has continued, though he is perfectly well-behaved and seems happy when given one-to-one attention by an adult. He is somewhat behind with his speech, is clumsier than most children of his age and is a 'non-stop fidget'. At home he is said to terrorise his sisters. His parents now give in to most of his demands in order to prevent continuing outbursts of anger and aggression. His mother has had a recurrence of her depression.

This vignette was developed as part of the three district study reported in Kurtz, Z., Thornes, R. and Wolkind, S. (1995) Services for the Mental Health of Children and Young People: Assessment of Needs and Unmet Needs, Department of Health, London.

per episode of treatment to discharge or survey date were £6 (paediatrics service) and £410 (psychiatry team), around an average of £64 per episode.

These are the costs of *direct care activities*, that is face-to-face contact between the child (and sometimes their family) and therapists. People working in the services also spend time on *indirect care activities* such as writing notes, attending child-specific meetings, other administrative duties, or service and training-related activities. Excluding the time implications of these activities would underestimate the full costs of providing a service to children with oppositional defiance disorder. To include the cost implications of indirect care activities, a ratio of 1:0.85 has been used (Netten and Dennett, 1995, p.74).

The total cost of assessing and treating children with oppositional defiance disorder within these eight specialist mental health services is estimated at £36,109 (including the cost implications of indirect care activities). This represents 24 per cent of the total annual costs of the paediatric behavioural clinic, 16 per cent of the psychiatry teams' costs and two per cent of the psychology teams' total annual costs.

### **Costs and outcomes**

No economic evaluation would be complete without some consideration of the outcomes generated by different levels of expenditure. We have no control or comparison group in this study but we can use the clinicians' ratings of the children's responses to treatment as a measure of change. Responses for 144 children who had been discharged from any of the services were rated as follows: condition had deteriorated (one child); condition showed neither improvement nor deterioration (no change; 41 children); some improvement (44 children); and considerable improvement (58 children). Data on session length and duration were available for 127 of these children allowing accurate disaggregation of the treatment costs by these 'outcome' groups.

Table 1 summarises these findings giving the mean and range of costs for the completed treatment episodes. Apart from the child whose condition was recorded as being worse at discharge, as the level of improvement rises (no change to considerable improvement) so too do the mean and range of costs. Dividing the children into two groups — no improvement (deterioration or no change) and improvement (some or considerable improvement) — we found that there was a significant difference between the costs ( $p < 0.05$ ).

It is important to note that these costs-outcome comparisons are not adjusted for severity of illness or other characteristics at *beginning* of treatment. We do not know, for example, whether children who were less disturbed received less intensive treatment. Nor do we know what other services children and their families used while they were receiving treatment from the specialist services. The use of such services (which will carry resource implications that are not measured in this study) may have contributed to the children's levels of improvement.

### **Conclusion**

To provide an efficient and comprehensive service for children and young people with mental health problems, commissioners require four sets of data: information on the needs of the population to be served; knowledge of the availability of provider units and the service components they provide; evidence of the effectiveness of the services in meeting needs; and financial information to assess the costs of achieving desired outcomes. Unfortunately, these data are in

**Table 1 Outcomes and episode costs for discharged children (1994-95 prices<sup>1</sup>)**

Broad outcome measure	Mean cost per episode	Range
Deterioration (1 case)	£61.50	£61.50
No change (30 cases)	£21.90	£6–123
Some improvement (41 cases)	£52.70	£6–219
Considerable improvement (55 cases)	£54.70	£12–301

*Note*

1. Direct care activities only, costs uprated from 1992-93 prices using the Hospital and Community Health Pay and Price Index.

short supply. The Health Advisory Service, for example, found little evidence of the application of health economics to this field (1995, para 161). The findings summarised here, and those from the full study, provide important initial evidence on the scope and costs of child and adolescent mental health services.

Our considerable thanks are extended to our collaborators Zarrina Kurtz and Rosemary Thornes and to the services which provided the data. Full details of the study from which these data are taken can be found below.

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## Related Research

The data reported here form part of a three-year programme of research investigating the provision of services for the mental health of children and young people. Two reports summarise the findings, each containing a chapter on the economic evaluation:

- Kurtz, Z., Thornes, R. and Wolkind, S. (1995) *Services for the Mental Health of Children and Young People: A National Review*, Department of Health, London.
- Kurtz, Z., Thornes, R. and Wolkind, S. (1995) *Services for the Mental Health of Children and Young People: Assessment of Needs and Unmet Needs*, Department of Health, London.

## **Further Research on Children's Mental Health**

### **Improving the quality of family support**

The Department of Health is funding research to evaluate a method to facilitate good parenting in families with young children who are on the Child Protection Register, or where there is serious concern about parenting. The design of the project is to evaluate the implementation of the intervention package in Scotland and the south east of England, using index and control groups assessed pre- and post- the intervention phase and at a one-year follow up

An economic evaluation is being carried out at CEMH as part of the programme of research, working alongside the child psychiatry and psychology research teams led by Professor Tony Cox and Dr Christine Puckering. The economic study is collecting additional data on service use and costs for the children and families taking part in the study, in both England and Scotland.

The research aims are:

- to describe service use and costs for individual children and families, during the support programme and in the one-year follow-up period;
- to compare the overall and component resource implications between the groups of families, alongside the outcomes for children and families;
- to examine differences in resource implications between families within each group, linking resources to child and family characteristics, needs and outcomes;
- to calculate full and disaggregated costings (by programme) of the family centres taking part in the study;
- to interpret our findings in relation to relevant policy and practice discussions concerning child care and family support;
- to make informed conjectures regarding long-term service and cost implications for children and their families.

The economic evaluation is funded until March 1997 and will report findings soon afterwards.

CEMH contacts: Angela Hallam and Martin Knapp

### **Inclusive and special education**

Between 1995 and 1997 staff from the Centre for Educational Research and Innovation (CERI) are visiting areas in eight member countries of the Organisation for Economic Co-operation and Development (OECD) as part of a long-running study of inclusive education for children with learning difficulties and disabilities. The overall aim of the study is to gather information and data to inform governments and others on the implications of inclusive educational provision for the organisation of school services and their funding.

Members of the CEMH/PSSRU designed a framework and methodology for an economic evaluation to be included in the multi-national study, building on previous experiences in undertaking similar studies of health, social care and criminal justice interventions and policies. The framework and methodology were tested in one local authority area in England and will be extended to other countries in 1997.

CEMH contact: Jennifer Beecham

## **Further Research on Children's Mental Health**

### **Evaluating psychiatric inpatient care for children**

A pilot study was undertaken by Dr Brian Jacobs and colleagues at the Bethlem and Maudsley Hospital to assess the feasibility of comparing the outcome of inpatient and outpatient treatment for children with severe behavioural problems.

The pilot study provided an opportunity to develop simultaneously a methodology for comparing the full cost consequences of these two treatment models, prior to a full cost-effectiveness evaluation. A number of questions were added to the existing research schedules and, where necessary, new schedules were designed. Data-collection methods which would allow accurate costing of the treatment models were also piloted.

CEMH contact: Jennifer Beecham

### **Provision for young adults with hemiplegic cerebral palsy**

An epidemiological sample of 100 young adults aged 20-25 and their parents will be interviewed to examine attitudes about how the transition from children's to adults' services was handled and how it could be improved.

Personnel from CEMH are collaborating with Dr Robert Goodman and Dr Sarah Bernard (Institute of Psychiatry) to estimate the costs of support currently received by sample members, to explore what improvements interviewees think could be made to the mental health service and to other formal service provision, and to estimate the costs of these improvements. Information will be sought about services provided by the health sector, social services departments, voluntary and private organisations, and informal carers. Some of these data can be compared with data on the normative use (and costs) of such services, abstracted from the recent ONS household survey of psychiatric morbidity.

Starting in July 1995, the project will be completed by autumn 1997. The results will feed into a strategy to produce relevant information in ways desired by people with hemiplegic cerebral palsy. Publications in peer-reviewed journals will also be available in 1998.

CEMH contact: Jennifer Beecham

### **Treatment and costs in children's mental health care**

The CEMH has recently begun the development and subsequent testing of an information gathering system suitable for clinical practice which will also allow collection of data on all the services and support received by children. This will enable analysis of the extent to which needs are being met, the calculation of the costs associated with two models of delivery, and exploration of the links between costs and outcomes to determine relative cost-effectiveness.

The study will be conducted in collaboration with Dr Patrick Byrne, Anula Nikapota, and Professor Eric Taylor, Institute of Psychiatry.

CEMH contact: Daniel Chisholm

# Eating disorders — the developing mixed economy

Ailsa Brown

## Introduction

One of the aims of the 1990 NHS and Community Care Act was the encouragement of the mixed economy, that is, the use of NHS and non-NHS funds to purchase care from providers in the NHS, private and voluntary sectors. An underlying objective was to secure efficiency gains through competition in a quasi-market.

Whilst the benefits (if any) resulting from the legislation have not been quantified, recent research suggests the Act has had some influence in promoting the mixed economy, specifically within the mental health sector. For example, Warner and Ford (1996) estimated that approximately £42 million of NHS mental health funds were used to purchase acute psychiatric inpatient care from the private sector during 1994.

Several distinctive features of this market for psychiatric care have been noted. There is growing awareness that activity by private providers has tended to be confined to particular disease areas or 'market niches' — for example in the treatment of alcoholism, substance abuse and eating disorders — rather than being pervasive in all areas of psychiatry (Marks and Thornicroft 1990). In addition, the study by Warner and Ford highlighted the extensive use of extra contractual referrals (ECRs), as opposed to block or cost per case contracts, when health authorities arrange care with private mental health providers. It is important to note that whilst ECRs can be a useful way to facilitate purchasing, they are generally acknowledged as being a more expensive way to contract with providers (Butler 1996).

Given the increasing importance of the private sector as a provider of psychiatric care, and concerns over the reliance on ECRs to purchase such care, a study was designed to look at mixed economy issues in the area of eating disorders. A questionnaire was sent to English and Welsh purchasing authorities in order to assess purchasing patterns used in securing treatment for sufferers with acute eating disorders. This article reports the findings in terms of the levels of facilities available locally to responding authorities, contracts utilised during 1995 and the general implications for the market for acute eating disorders care.

## The nature of the problem

Eating disorders are not primarily about food: starving and binge eating are symptomatic of latent emotional and psychological concerns. The presenting

**Table 1**  
**Percentage of responding authorities with local eating disorder services**

Facility	
NHS eating disorders unit	27
NHS specialist (e.g. psychiatrist)	54
Private hospital dealing with eating disorders	31
Other private sector (e.g. psychotherapists and counsellors)	15

**Table 2**  
**Percentage of responding authorities having different types of contracts**

Contract	Number of authorities having such contracts	Details
Block	28 (49%)	Mainly under general mental health contracts
Cost per case	8 (14%)	—
Cost and volume	12 (21%)	—
ECR – NHS	42 (73%)	Total of 205 ECRs
ECR – private	48 (84%)	Total of 248 ECRs

features of anorexia nervosa are a deliberate and dramatic weight loss, a distorted body image and, in the female sufferer, amenorrhoea. The bulimic patient is more likely to be characterised by a normal height-to-weight ratio despite erratic eating habits typified by habitual binge eating and vomiting.

It is hard to estimate the extent of the disorders, partly because any epidemiological investigation will be hampered by the reluctance of some of those affected to admit to the problem. However, a typical general practitioner list of 2000 patients could expect to have one or two anorexics and eighteen patients with bulimia, many of whom (but by no means all) will be adolescent females (Hoek 1991).

In addition to a range of health complications (such as heart, kidney, gastro-intestinal and fertility problems), anorexia nervosa presents itself as having one of the highest rates of mortality for any psychiatric condition, estimated to run at around 13-20 per cent per annum (Howlett et al. 1995).

In terms of effective treatments there is no consensus on what constitutes the 'best' regimen for sufferers of either disorder. It is generally accepted that to be helpful the programme will have several components, such as:

- restoration of normal body weight
- promoting attitudinal change towards body perception and eating habits
- addressing the psychological problems of the sufferer.

Generally, treatment can be administered on an outpatient or day patient basis by a range of health care professionals (typically psychiatrists, dietitians, behavioural therapists and nurses) unless the client is severely ill, in which case inpatient care may be necessary.

### Methods

In order to assess the contracting methods of purchasers, all health authorities in England and Wales were contacted and asked to complete a questionnaire requesting details of known eating disorder services (NHS and non-NHS) within their area and also the contracts that they had in place for the provision of care for eating disordered patients. Purchasers were also invited to give comments on whether they perceived there to be an increase in demand for eating disorder services.

### Results

The response rate to the survey sent to the 106 health authorities in England and Wales was 54 per cent.

Table 1 indicates several interesting points. The responses highlight the relative importance of private providers in each region. Certain areas appear to have no specialist NHS provision for eating disorders and, consequently, sufferers would presumably be treated in facilities not specifically designed to deal with such patients. Responses to the questionnaire revealed the paucity of information that purchasers possess on 'other private sector' operators. The figure of 14 per cent in the table may lead the reader to conclude that there is a relatively low amount of such counsellors in each of the regions. However, nearly 40 per cent of health authorities stated in answer to this question that they 'didn't know' whether or not such facilities existed in their purchasing locale.

Table 2 gives information on the contractual arrangements in place at the responding authorities regarding eating disorders provisions. The evidence presented supports the notion that there is heavy use of ECRs to both NHS and private sector providers, particularly the latter. It is strange to note that the possession of pre-existing contractual arrangements would seem to have little bearing on whether or not ECRs were authorised since, of the 46 purchasing organisations with such arrangements, 80 per cent still had to negotiate ECRs.

A rough calculation reinforces the resource consequences of such purchasing patterns. Cost figures provided by one authority indicated that a one week ECR to a private provider cost £1855 and £1232 for the equivalent NHS ECR. Assuming that all the ECRs in table 2 are for one week, then the total cost of NHS ECRs would be £252,560 whilst the private ECRs would cost £305,536. Costing the private sector ECRs at the NHS rate (although this would vary from trust to trust) would result in a saving of £154,504 which could then facilitate the purchase of 125 additional one week units of care on an NHS ECR basis. It should be noted that this calculation is illustrative only, since it omits all notions of differing costs between trusts and across different private providers, differing case mix and, importantly, effectiveness is assumed to be homogeneous between the public and private sector.

A common response to the question of increasing demand was that health authorities *were* experiencing pressure to purchase specialist eating disorder services. However, this demand may rather be the result of greater awareness and recognition of the disorders than increasing prevalence. It was interesting to note that seven authorities were currently reviewing purchasing plans in this area due to concerns over a lack of local expertise and the reliance on high cost ECRs.

## Conclusions

The findings from this study emphasise the current reliance on ECRs for the treatment of eating disorders and draw attention to the ensuing transactions costs. The study has focused on certain parts of the mixed economy in the eating disorders care market: specifically the acute end of the spectrum. It should be noted, therefore, that the balance of provision and purchasing may not be replicated for patients presenting with milder symptoms, who will tend to be cared for in primary care settings. In addition, bias may result from the response rate and the over- or under-representation of some geographical areas in the analysis. The study was not able to assess the potential for differential outcomes that may exist between providers in different sectors and hence justify any cost differences. Given these points, any inferences that can be projected onto the broader mixed economy must be tentative. What can be concluded is that, despite some success in promoting pluralism in provision in this area of psychiatry, the market is far from being free of problems.

Ailsa Brown completed the research summarised here during her summer placement at CEMH from the University of York MSc health economics course. She is now employed at the University of Glasgow. Grateful thanks are extended to the purchasers and providers for responding so positively to requests for data.

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# Work schemes for people with mental health problems

Justine Schneider and Angela Hallam

This evaluation looked at the costs of care and subjective quality of life of workers (users) in seven sheltered work places for people with mental health problems in the south east of England. Our sample consisted of between 15 and 25 individuals in each setting, together with 20 newcomers who started work between September 1994 and March 1995, giving a total of 157 subjects.

The instruments used were the Lancashire Quality of Life Profile, the Client Service Receipt Inventory, the Global Assessment of Functioning and the Berkshire mental health matrix (which broadly assesses needs for social care). All data were collected at one point in time, except for information relating to the newcomers, who were interviewed within a month of starting and then again nine months later. Among the findings from the research to date are the following:

- There were wide variations in the profit margins and staffing ratios of work schemes. These were reflected in the unit costs.
- The size of individual personal networks did not vary significantly between groups.
- Having a close friend was positively associated with general life satisfaction.
- Health and social work costs were lower for people living in non-domestic accommodation, while work scheme and housing costs were higher for this group.
- Newcomers had spent more time in hospital than had members of any single scheme over the three months leading up to interview.
- The cost of subsidising a person in a work scheme was less than that for realistic day care alternatives.

Although users, carers and their representatives see constructive occupation as a high priority, people with severe mental illness are disproportionately affected by unemployment. Evidence concerning the therapeutic and cost-effectiveness implication of work for people with mental health problems is limited, but this study has, we believe, contributed to our understanding of work schemes in various ways. During 1997, the primary task in this research area is to complete the dissemination of findings.

## Publications

- Schneider, J. and Hallam, A.J. (1997) Specialist work schemes: user satisfaction and costs, *Psychiatric Bulletin*, (forthcoming).
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## **Mental health care research by the PSSRU at the University of Manchester**

### **The care programme approach and care management in mental health**

The Department of Health has awarded a grant to a project team representing the Universities of Durham, Kent, and Manchester to compare care management and the care management approach. Work started in March 1997 and continues for two years.

The study will explore the variation in mental health care delivery models, looking particularly at the inter-relationships between health services and local authority services. It will survey the comprehensiveness and adequacy of mental health care nationally in the light of standards set by the care programme approach and by available knowledge about the effectiveness of care management. It will test the effectiveness of different models in terms of service user outcomes, the satisfaction of the purchasers, providers, users and carers, and costs.

The project is directed by John Carpenter, Centre for Applied Social Studies, University of Durham (0191 3747241 / J.S.W.Carpenter@durham.ac.uk) and Justine Schneider, Personal Social Services Research Unit, University of Kent (01227 827891 / J.Schneider@ukc.ac.uk). The main collaborators are: David Challis and Peter Huxley (PSSRU, University of Manchester), Martin Knapp (PSSRU, LSE) and Francis Creed (Department of Psychiatry, University of Manchester).

### **Mental illness social circumstances, needs, severity and costs**

This study focuses on people with severe mental illness and tests the relationship between health needs and assessment, the utilisation of inpatient hospital services and cost. The study will compare inner city central Manchester with a mixed urban area at Preston and follow all admissions to hospital in a one year period. All patients will be screened on admission using a standardised instrument to rate the severity of their condition for diagnosis and social functioning. All patients with a high score of severity will form the main sample from the study. This group of patients, estimated to be approximately 200, will be assessed on admission and discharge using four standard instruments. In addition, an analysis of direct cost will be completed on discharge.

### **Matching resources to care for severely mentally ill people**

This project was identified by the Unit Advisory Group members as the number one priority for the Research Plan 1995-97. The main hypothesis is that, contrary to current opinion, the most severely ill patients with long-term problems are being cared for by community support teams and other parts of the social services department, or the voluntary sector, rather than the health service. Moreover, those people with long-term problems cared for by the health service are, in the main, maintained by drug treatment and have large areas of unmet need, compared to similar patients cared for by social care agencies. One might go on to suggest that social care clients have unmet health needs.

The project will also enable us to compare practice in the operation of the Care Programme Approach and care management. The first stage involves an empirical investigation of the severity of problems of cases on the caseloads of all community mental health workers in participating authorities. A form (MARC-1) has been designed to collect this information, and it has now been piloted in Trafford (n=558), Rochdale (n=1048), Bury (n=815) and Bolton (n=454). The second stage of the study will assess the extent to which the health needs of carers with severe mental illness characteristics, predominantly helped by social services, are unmet, and the extent to which those predominantly helped by the health service have unmet social care needs.

**These studies form part of a large programme of research (including other mental health care projects) carried out from the PSSRU's recently established Manchester site under the direction of Professors David Challis and Peter Huxley. Further details appear in the *PSSRU Bulletin*.**

## Early indications of the long-term costs of psychiatric reprovion

Angela Hallam, Jennifer Beecham, Martin Knapp and Barry Baines

The long-running economic evaluation of psychiatric reprovion in North London is now focusing on service use and costs five years after the index discharge from Friern or Claybury hospital. (Full one-year findings are reported in Beecham et al., 1997). Data for the first five annual cohorts of former long-stay patients have been analysed to date, and it has been possible to compare the service packages received by 211 people one and five years after they left hospital.

### Service use and cost

At five years after discharge, as at one year, accommodation-related services dominate the costs of support. The majority of study clients continue to live in staffed facilities, where all or most of their health and social care needs are addressed by in-house staff. As shown in Table 1, the mean cost of accommodation was £536 per week (85 per cent of the total cost of care), a significant increase from the one-year interview point. It is possible that, in part, this reflects a service response to rising levels of physical need as residents grow older. Increasingly complex managing arrangements may also contribute to the rise in cost.

Although other services contribute little to total cost, they are vital elements of care packages. Sixty-one per cent of these clients reported contact with a general practitioner during the fifth year after relocation. Community nursing, psychiatry

**Table 1 Community reprovion — service utilisation after one and five years**

Service	One year		Five years	
	% using	cost (£)	% using	cost (£)
Accommodation	100	491	100	536*
Hospital inpatient	26	14	16	22
Hospital outpatient	63	2	50	2
Daycare — NHS	44	18	32	30*
— local authority	33	11	14	13
— voluntary organisation	29	9	13	10
— social club	10	1	13	2
General practitioner	96	2	61	2*
Community nursing	43	3	33	2
Community psychiatry	73	2	36	2*
Community psychology	33	2	28	<1*
Social work	26	7	10	<1*
Education	7	2	2	<1*
Sample size	211		211	

*Notes*

Costs are expressed in £ per week at 1995-96 price levels, averaged across all the sample.

\* indicates significant difference at p<0.05

and psychology services were used by approximately one third of the costs sample.

### **Service package components at one and five years**

Accommodation and non-accommodation services were provided by a variety of agencies and organisations in both the public and independent sectors. However, hospital services still provide a major area of support. For example, outpatient services were used by half the study sample and 16 per cent had at least one inpatient admission. (These episodes were either completed within the year, or clients were expected to return to their community placements after their stay in hospital.)

Almost all community and hospital-based services were used by fewer people in the fifth year after discharge than in the first. The weekly cost of services such as NHS day care, however, were significantly higher. Although the relative unit costs of individual services may have risen, the rate of increase indicates that, where services were being used, they were often being used more intensively.

### **Costs sample details**

As yet clients in the costs sample at the second (five-year) follow-up point include only those for whom we have data collected at interview. Ultimately this group will be augmented by those who were readmitted to hospital and not expected to return to their community placements, and people living independently in domestic housing who refused to be interviewed, or proved difficult to contact. Full costs for these other people will be interpolated from partial data and supplementary information relating to the detailed costs group, an exercise which was carried out at the one year follow-up point (Beecham et al., 1995). However, it is already possible to tease out patterns of long-term service use and cost, and to begin to examine the consequences in terms of funding arrangements and agency responsibility.

The research reported here was carried out in association with the Team for the Assessment of Psychiatric Services, under the Honorary Directorship of Professor Julian Leff. We should like to extend our gratitude to all the staff and service users who have participated in the evaluation.

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## Are resources being directed at those in need? Findings from the PRiSM study

Paul McCrone

PRiSM (Psychiatric Research in Service Measurement) was established in 1992 to evaluate the impact of sectorised community mental health care in an area of South London. In 1991 the Camberwell Health District was divided into five geographically defined sectors. Mental health care provision was located at what is now the Bethlem and Maudsley NHS Trust, and also the St Giles day hospital, connected to Kings College Hospital.

It was intended that community mental health teams would be developed within each of the five sectors, with the Trust remaining the key provider, but doing this from community mental health centres. The PRiSM evaluation is focusing on two of these sectors. An intensive care sector (Nunhead) has developed two teams (acute care and continuing care), and has aimed to reduce the level of inpatient episodes required. The other sector (Norwood), although also developing community services, provides a more 'standard' form of mental health care.

The first stage of the research has been an attempt to identify all people with a diagnosis of psychosis who were living in the two sectors during an index year (1991/92 in Nunhead, 1992/93 in Norwood). This case identification exercise was conducted by referring to hospital case notes, GP records, and information provided by other agencies. A total of 535 people were identified in this way.

The second stage of the research was to conduct interviews with clients, formal carers, and informal carers. A wide range of schedules was used, relating to service use, needs, quality of life, satisfaction with services, functioning, socio-demographic information, social networks, physical illness, social behaviour, and the burden on informal carers and their health. A sample of users was randomly selected for interviews, which took place at two points in time: prior to the establishment of the sectorised teams in the community, and then approximately two years after these teams had been in operation.

Of particular relevance for this paper are the schedules relating to service use and needs. The Client Service Receipt Inventory (CSRI) (Knapp and Beecham, 1992) was completed for clients and contact time with individual services was recorded. These details were then combined with specific unit cost information so that the total and component costs of care could be calculated. A needs assessment was performed using the Camberwell Assessment of Need (CAN) (Phelan et al., 1995; see box 1).

### Box 1

#### Items contained in the Camberwell Assessment of Need

1. **Basic needs:** accommodation, food, daytime activities.
2. **Health needs:** physical symptoms, psychotic symptoms, psychological distress, safety to self, safety to others, alcohol, drugs.
3. **Social needs:** company, intimate relationships, sexual expression.
4. **Service needs:** information and condition and treatment, telephone, transport, welfare benefits.
5. **Functioning needs:** looking after the home, self care, child care, education, money

**Table 1**  
**Impact of need on service costs**

Area of need (=1 if need exists)	Existence of need	
	B <sup>1</sup>	Sig. <sup>2</sup>
Accommodation	0.83	0.00
Food	0.90	0.00
Information about condition and treatment	0.46	0.09
Looking after the home	0.72	0.02
Intimate relationships	-0.57	0.03
Constant	6.47	0.00
	R <sup>2</sup> =0.35	

*Notes:*

- 1 This shows the proportionate effect on cost if the need exists (a minus sign indicates an inverse relationship).
- 2 Significance level.

One aim of the PRiSM study was to see if resources were being directed at those in need. To this aim multivariate regression analyses were employed. The dependent variable was the logarithm of service cost. This transformation was required due to the distribution of cost being skewed to the right (a result of a few heavy users of services). The independent variables scored one if there was a need (met or unmet) for each of the 22 areas and zero otherwise. The baseline measure of need and the follow-up measure of cost were used so that it could be seen if services responded to the existence of needs. The results for 111 clients are shown in table 1. It is of interest that costs seem to be influenced mainly by non-health areas of need.

These analyses are useful because there has been recent emphasis on the importance of services being needs-led. However, it is recognised that with the inclusion of background characteristics and outcome measures the significance of some of these variables

might change. Continuing work at PRiSM will involve further examination of the links between resource utilisation and patient characteristics. By combining cost information with outcome data (e.g. change in functioning, needs, or quality of life) we will be able to explore the cost-effectiveness of intensive community mental health care compared to standard community care.

Paul McCrone is Lecturer in Health Economics in the Section of Community Psychiatry (PRiSM) at the Institute of Psychiatry. Further details of this part of the PRiSM study can be obtained from the proceedings of the *Improving Services for Severely Mentally Ill People in the West Midlands* conference held 10-11 March 1997.

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### Costs data and the Verona Case Register

In Verona, Italy, a computerised case register has been in operation since 1979 providing demographic, diagnostic and service use information on all people in contact with the psychiatric service. In the last three years, our collaboration with the research group has enabled unit costs to be estimated for each component of the community-based psychiatric service, in turn allowing the costs of care for each case register member to be calculated. Analysis of the costs data in conjunction with other information stored on the case register has allowed the variation in the costs of care to be explored with respect to client characteristics, diagnosis and length of contact with the service. A specially adapted and translated version of the *Client Service Receipt Inventory (ICAP)* is being used in a prospective study of service users and will allow inclusion in the analyses of the use and cost implications of services which are not provided by the psychiatric service.

### Papers available on this work

Amaddeo, F., Bonizzato, P., Rossi, F., Beecham, J., Knapp, M. and Tansella, M. (1996) La valutazione dei costi delle malattie mentali in Italia: sviluppo di una metodologia e possibili applicazioni, *Epidemiologia e Psichiatria Sociale*, 4, 145-162.

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### Project group members and addresses

Francesco Amaddeo, Paola Bonizzato and Michele Tansella; Servizio di Psicologia Medica, Istituto di Psichiatria, Ospedale Policlinico, 37134 Verona. Tel 45 807 4441. Fax 45 585 871

Jennifer Beecham; PSSRU, University of Kent at Canterbury. CEMH, Institute of Psychiatry, London.

Andrew Fenyo; PSSRU, University of Kent at Canterbury.

Martin Knapp; PSSRU, London School of Economics. CEMH, Institute of Psychiatry, London.

### University of Melbourne

Following an invitation from Professor Helen Herrman, Shane Kavanagh spent two months as a Visiting Fellow in the Department of Psychiatry, University of Melbourne, Australia, based at St Vincent's Psychiatric Service. During the visit he gave a number of presentations and lectures. He also contributed to the programme of research on carers examining the targeting of community services to elderly people and the factors associated with admission to institutional care. Shane would particularly like to acknowledge the friendship and support he received during his stay.

### **Psychiatric rehabilitation: standardisation of procedures for the assessment of activities, costs and benefits**

Researchers from five European countries have been working on an EU-funded project aimed at reaching a consensus on minimum methodological standards for feasible and integrated procedures to evaluate long-term care in mental health. There are two core objectives. Objective A is aimed at developing a methodology for the standardised assessment of long-term care activities and techniques currently employed in Europe. This work has been completed and resulted in a recommendation to employ three schedules to collect data at the catchment area level.

Following a literature review and piloting, the *International Classification of Mental Health Care* (ICMHC; Peter de Jong) was identified as the most appropriate way of collecting information on the content of service provision. The schedule provides a standardised way of describing the interventions and activities which occur within services, thus facilitating a comparison of mental health service systems in different geographical areas.

To complement the information collected on the ICMHC, Sonia Johnson and Robert Kuhlman (with support from other members of EPCAT group) developed the *European Service Mapping Schedule* to record information on the scale and range of delivery modes comprising the mental health care system of any catchment area. A service inventory can be compiled and the links between services examined.

The third part of the instrumentation developed under Objective A is a *Socio-Demographic Schedule*, which records the variations in population characteristics that have been shown to be associated with use of mental health services or levels of morbidity (Jennifer Beecham and Sonia Johnson).

Objective B is focused on developing guidelines to help identify the important cost and outcome dimensions to be included in a service-level evaluation. The final report to the European Union will be submitted in June 1997 and will include details of the work undertaken to meet this objective.

For further information on this project, please contact Carmine Munizza at the Coordinating Centre in Torino (CSRP, see below). The work is funded under the EU Contract BMHI-CT94 1304

#### **Project group members and addresses**

Carmine Munizza (Project Leader), Giuseppe Tibaldi, Elena Scala, Carole Palazzi, Maria Zuccolin; Centro Studi e Ricerche in Psichiatria, Ospedale G. Bosco, Torino, Italy. Tel. 39 11 201044, Fax 39 11 2426846.

Jennifer Beecham (Scientific Co-ordinator); CEMH, Institute of Psychiatry, London and PSSRU, University of Kent at Canterbury, UK.

Peter de Jong; Department of Social Psychiatry, University of Groningen, The Netherlands. Aneca Stenman; Psykiatriska Kliniken, Gällivare, Sweden.

Professor L Salvador; CIM/PROM, Universidad de Cadiz, Jerez de la Frontera, Spain.

Sonia Johnson; PRISM, Institute of Psychiatry, London, UK.

Robert Kuhlman; Bezirkskrankenhaus, Kaufbeuren, Germany.

### **The Economic Evaluation of Mental Health Care**

**Edited by Martin Knapp**

Arena, Aldershot, 1995; 260 pages, paperback, ISBN 1 85742 211 2; £14.95.

An introduction to the principles of economic evaluation, with many illustrations of their application to mental health care policies and practice.

#### **Contents**

- The economic perspective: framework and principles
- Economic evaluations of mental health care
- Collecting and estimating costs
- Costs and outcomes: variations and comparisons
- Eight years of psychiatric reprovision: an economic evaluation
- Elderly people with dementia: costs, effectiveness and balance of care
- Costing the care programme approach Comparative efficiency and equity in community-based care
- Reduced-list costings
- Decision analysis and mental health evaluations
- Have the lunatics taken over the asylums? The rising cost of psychiatric services in England and Wales, 1860-1986
- Mental health economic evaluations: unfinished business

### **Journal of Mental Health Policy and Economics**

Published by John Wiley and Sons, Chichester and New York  
First issue to appear in January 1998

This new international journal will publish studies aimed at integrating clinical, health services, outcomes and economic research, and at linking this research to health policy formulation. This scientific information is

particularly important in psychiatry: the traditional assessment of health status in populations has probably obscured the burden of mental disorders.

*The Journal of Mental Health Policy and Economics* will enable psychiatrists and other mental health professionals, administrators, advocacy groups, providers of public and private health services, and suppliers of health technology and insurance products, for example, to follow the development of relevant research in this field and to use scientific information according to their perspectives.

### **Unit Costs of Health and Social Care 1997**

**compiled by Ann Netten and Jane Dennett**

PSSRU, Canterbury, July 1997, paperback (ISSN 0969-42268), £7.50 including post & packing (£5 each for more than one copy)

*Unit Costs of Health and Social Care* brings together a wealth of information for those involved in providing or evaluating care and those undertaking costs research.

Each *Unit Costs* volume consists of a set of cost 'schemata' containing specific information about the various component costs of each service covered; a commentary detailing the basis for the estimates; price indices (now with a section explaining their basis and use); a reference list of key studies; a glossary and indexes. All these are checked and updated, incorporating more detailed and accurate information, each year.

As with previous volumes, specially commissioned articles provide insights into current and recent research in costing and related areas.

*The 1997 volume is available from July, from the PSSRU librarian. The 1996 volume is available at £7.50 including p&p and previous years' editions at £1 when ordered with the 1996 or 1997 volumes.*