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# Economics of mental health in Europe

**Martin Knapp**

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# ECONOMICS OF MENTAL HEALTH IN EUROPE

Martin Knapp<sup>1</sup>

## 1. INTRODUCTION: DEVELOPING AIMS

Mental health services in Europe, in common with such services across the world, have as their primary and central objective the alleviation of symptoms. Increasingly, however, it is recognised that other aims should be pursued in parallel. In particular, decision makers in many health systems are recognising the need to improve the broader quality of life of people affected by mental illness (patients and their families), and also to tackle the social dimensions of mental illness. An associated aim has therefore been to address the processes of care, most notably by shifting the locus of provision from hospital to the community, and by developing more effective ways of supporting people. But resources are not limitless, and a fourth and very noticeable trend across the whole of Europe is the attention now paid to the achievement of cost-effectiveness resource deployment.

### **Improving quality of life**

Mental health problems have distressing symptoms and are associated with high mortality rates (especially through suicide) (Harris and Barraclough, 1998). Impoverishment of quality of life is another major problem, and can take many forms, including difficulty in obtaining and retaining paid employment. To give an illustration, epidemiological survey evidence for the UK shows that less than 20% of people with psychoses are in paid employment, and often only part-time and with low salaries (Foster et al., 1996). An obvious consequence is low income, but employment can also be the route to a broader social network, a source of self-esteem, and a basis for employment-related entitlements such as pension or health insurance contributions.

Looking more broadly, many people with schizophrenia find themselves ‘socially excluded’. Their disadvantaged employment experiences lead to low incomes and social marginalisation. Many live in substandard accommodation, and some will be homeless at some point in their lives. In some countries there are also high rates of imprisonment, where symptoms may go unrecognised or untreated (Singleton et al., 1998).

The quality of life of family members might also suffer, especially if they carry sizeable caring responsibilities. A study of families of people with schizophrenia in five European cities found that the principal family caregiver spent 6-9 hours per day (depending on country) with their relative with schizophrenia. The ‘negative’ impacts most commonly reported by family members were restrictions on social activities, disruption to family life and feelings of loss (Magliano et al., 1998).

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Quality of life is therefore important in understanding what mental illness means for the people who suffer it, and should be considered when formulating effective treatment plans.

### **Tackling the social dimensions**

A major challenge for many people with a mental illness is stigma, which can lead to social marginalisation, neglect and disadvantage. A number of European countries have now initiated anti-stigma programmes and campaigns (Sartorius, 2002).

Mental illness can also have societal consequences, such as the impact on crime and perceptions of personal safety. Taylor and Gunn (1999) suggested that ‘about 10% of those convicted of homicide in England and Wales suffer from schizophrenia’ (p.10). Figures for other European countries are comparable: for example, 15% of homicide convictions in Iceland 1900-79 were people with schizophrenia (Petursson and Gudjonsson, 1981) and 8% of those convicted in North Sweden and Stockholm had schizophrenia and 4% schizophreniform psychosis (Lindqvist, 1989).

### **Promoting community care**

Health systems across most of western Europe are shifting care from hospital to the community. In Italy and the UK, for example, there are now few specialist psychiatric hospitals. Policy intentions are to support people in community settings where this is feasible, effective and safe. In much of central and eastern Europe, in contrast, the major capital investments in psychiatric in-patient services remain largely untouched.

Supporting people with chronic health problems in community settings is, of course, not unique to psychiatry. What distinguishes mental illness, and especially schizophrenia, is the multiplicity, heterogeneity and complexity of individual need, and the consequences for service. Someone with schizophrenia may need not only skilled therapy from a psychiatrist, psychologist or nurse, but also help in finding appropriately supportive accommodation, income support or sheltered employment. They may come into regular contact with criminal justice agencies. Many will rely heavily on family support. Each of these services and supports has a cost, and it is the aggregation of these various service consequences that makes schizophrenia such a costly illness.

### **Achieving cost-effectiveness**

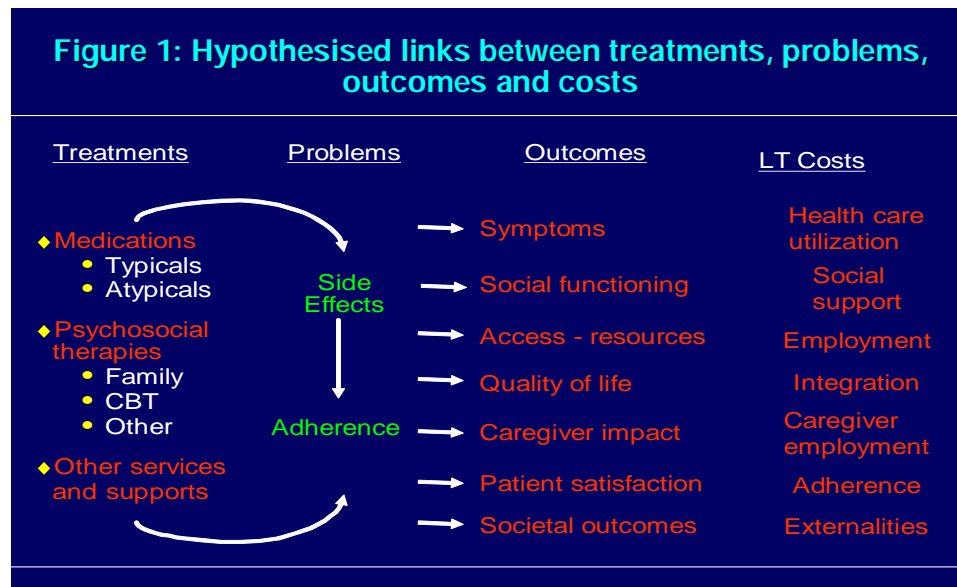
This high and wide-ranging cost is one reason for growing interest in the resource implications of mental illnesses, and in *cost-effectiveness*: achieving a better balance between the resources expended and the outcomes that result.

The aim of this paper is to look at what cost-effectiveness means in mental health – focusing on schizophrenia – in European health systems.

## **2. ECONOMICS – DEMANDS AND DIMENSIONS**

Improving health and quality of life are rightly the main aims of health system decision makers, but they also recognise the need to pursue *cost-effectiveness* in order to make more efficient use of scarce resources. Figure 1 offers a framework to locate the links between

health, quality of life and cost-effectiveness. On the left of the diagram are treatments, including pharmacological and psychosocial therapies. Different treatments have different side-effects, in turn leading to different rates of adherence with treatment plans (illustrated in the second column). Side-effects and adherence are relevant, but the focus of attention should be on the outcomes such as symptoms, social functioning, quality of life, and impacts on caregivers.



Successful achievement of some or all of these outcomes could reduce the longer-term costs associated with the items in the final column of Figure 1. For example, alleviating symptoms should reduce health care utilisation, and social functioning should reduce need for social support. Figure 1 is in fact a hypothesis map. Many of the suggested interconnections have been examined empirically, whilst others are assumptions that still await robust testing. The diagram suggests three sets of economic issues to be addressed today:

- What are the costs of schizophrenia and its treatment? These are the summed monetary values of the first and fourth columns of Figure 1.
- What is the cost-effectiveness of treatment? This is shown by links between the first and third columns, mediated through the second.
- What are the cost-offsetting properties of treatment? This is shown by comparing treatment costs (first column) with any associated savings (fourth column).

Looking across the world, awareness of the need to improve cost-effectiveness has produced various demands for economic evidence. There are requests for measures of the overall resource impact of a disorder leading to cost-of-illness and ‘global burden’ studies. Second are demands cost-effectiveness and similar analyses of treatments, care arrangements and policies. Third are searches for service and health system configurations that can improve the efficiency of use of available resources, either at a macro level (such as managed care or privatisation of provision) or at a micro level (such as case management). I will discuss only the first two areas, and will now focus on schizophrenia.

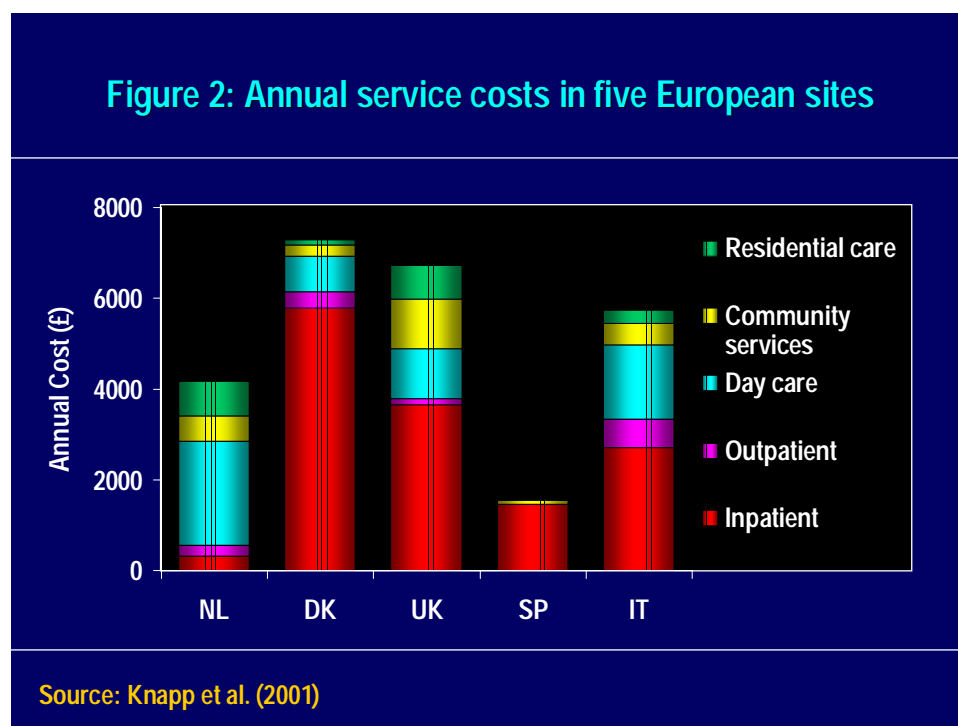
### 3. SCHIZOPHRENIA: COST IMPACTS

The impacts of schizophrenia are wide-ranging, often long lasting, and sometimes profound. They are felt not only by people who are ill, but by their families, neighbours and the wider

society. Some impacts are ‘economic’, having effects associated with personal income, the ability to work, productivity or the utilisation of treatment and support services. These economic impacts are often grouped together in ‘cost-of-illness’ calculations. Such estimates are now available for schizophrenia for about two dozen countries (Knapp et al, 2002a).

Focussing initially on service costs, the European evidence points to a number of pervasive characteristics.

First, in well-developed health systems people with schizophrenia use a range of services. This is demonstrated well by the EPSILON study, which collected cross-sectional data on 404 patients with non-affective psychotic disorder across five European sites (Becker et al., 1999). Care systems in the sites all subscribed to a broad model of community-based mental health care, but Figure 2 shows marked differences between them in actual service use patterns. Over 3 months, 12% of patients utilised inpatient care, and the mean number of community contacts was 8.0. Mean one-year cost per patient, in the total sample, was £5038, but there was substantial cost variation, some due to patient characteristics and some to health system factors (Knapp et al., 2002b).



A second general conclusion is therefore that there are marked differences between countries. Health care systems differ from country to country - cogently demonstrated by the 2001 World Health Report (WHO, 2001) – with consequences for costs.

A third feature of the European evidence is the high contribution of in-patient services to total costs. Even in countries where in-patient psychiatric bed numbers have been significantly reduced, hospitalisation remains a major factor: for example, 41% of direct health care costs in one Italian district (Amaddeo et al, 1997), as high as 69% in England and Wales in the early 1990s (Knapp, 1997) and 38% of direct costs in a model community-based service in Germany (Salize and Rössler, 1996). Central and Eastern European countries, which continue to rely heavily on in-patient care, the proportional cost contribution is greater. These

high hospitalisation costs have energised the search for treatments which reduce the need for prolonged in-patient stays (and hence prolonged cost) and improve patient health and quality of life, such as atypical antipsychotics.

Fourth, drug costs represent a *low* percentage of the total, typically 4-6% (Rouillon et al., 1997; Knapp, 1997; Salize and Rössler, 1996). Again, there are wide inter-country differences, partly because of differences in availability and relative costs of medications and in-patient services.

Another strong feature of the international evidence is the size of the non-service costs of lost productivity associated with morbidity and mortality and caregiver impacts, which often outweigh the service costs (Rice and Miller, 1996; Knapp et al., 2002a). It is now widely recognised that these non-service costs need to be taken into account.

#### **4. SCHIZOPHRENIA: COST-EFFECTIVENESS**

An economic evaluation identifies, measures and compares all relevant costs and outcomes of two or more alternative policies or interventions. The most commonly used evaluation tools, are cost-benefit, cost-utility and cost-effectiveness analyses. Among the better textbooks in the field are Drummond et al (1997) and Gold et al (1996). The underlying aim is to compare two or more alternative treatments to see whether one treatment achieves better outcomes for patients and families than the other treatment, relative to their respective costs.

Until recently, cost-effectiveness evidence has been rather modest in both scale and scope. Knapp et al, (2000c) provide an up-to-date and comprehensive review. Here a few highlights can be offered. The second and third papers in this series will return to this topic.

Atypical antipsychotic drugs offer patients and clinicians a set of safe, effective treatments (Task Force, 2002). Although evidence on the efficacy of atypical compared to conventional drugs has accumulated impressively, there are few good cost-effectiveness studies. Some of the published economic studies are methodologically weak (Taylor, 2002). However, those (few) economic studies employing randomised controlled designs point to cost-effectiveness advantages for the newer drugs (Essock et al, 2000; Hamilton et al, 1999). Head-to-head economic evaluations of the atypicals are still very rare and do not point consistently in any one direction.

Economic evidence on psychosocial interventions is less plentiful. There are positive findings, however, that point to the cost-effectiveness of interventions that reduce the impact of family stress and conflict often seen in households with high expressed emotion. Cognitive behavioural therapy also appears to be cost-effective. (Kuipers et al, 1998). A short psycho-educational programme to improve patient adherence with medication plans has also been shown to achieve better outcomes for patients at a cost which is no greater than standard practice (Healey et al, 1998).

Studies have examined the economic consequences of different organisational arrangements for providing mental health care. Until recently, most such attention in many European countries was focussed on community alternatives to long-stay in-patient care, following national policy decisions to close the old asylums (Leff, 1997). Today, research (and policy) attention is more likely to be focussed on the precise community arrangements - such as

assertive community treatment and community mental health teams - that can deliver good patient, family and social outcomes in cost-effective ways (Catty et al, 2002).

## 5. CONCLUSIONS

The realisation has grown over recent years and across most health care systems – certainly across the whole of Europe – that health care decisions need to pay attention to cost-effectiveness as well as effectiveness. This has generated a number of demands for economic insights. The volume of solid evidence from economics studies is still modest, but accumulating steadily and converging on core findings. Encouragingly, the *quality* of the economics evidence is also improving noticeably. However, looking across the world, almost all of the available evidence comes from a few North American and West European countries. Consequently, although the accumulation of empirical material should begin to satisfy those decision makers looking for a sound evidence base, there is still a long way to go.

The kind of evidence that decision makers need is of various kinds, including randomised controlled trials and naturalistic studies. One of the most exciting new pieces of research launched in Europe for a number of years is the SOHO study of over 10,000 people with schizophrenia, spread across ten countries. The next paper in this series will describe that study and its early findings.

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