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The costs of accommodation and care

Community provision for former long-stay psychiatric hospital patients

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Summary. The development of community services to replace two long-stay psychiatric hospitals in the North East Thames Health Authority region of the UK has been the subject of a research programme since 1985. The economic evaluation is conducted by the Personal Social Services Research Unit; research results relating to the first five cohorts of hospital leavers are reported in this paper. When followed up 1year after discharge, almost half of the sample were living in highly supported residential care units, most of which were managed by district health authorities. More than 40 services provided outside the accommodation facility were used by clients and, although contact with certain professionals remained constant, some changes in service use over time were marked. The average total cost of community care for this group was £ 493 per week (1992–93 prices), accommodation facility costs comprising approximately 85% of the total. In the new service configuration, district health authorities fund half of the costs of supporting the hospital leavers, 50% less than when they funded long-stay hospital placements. The rest of the funding burden is borne by a range of agencies, resulting in pressure on budgets and staff case loads.

Key words: Community care – Costs – Psychiatric hospital – Mental health – Service utilisation

Introduction

The question of cost is central to the British government's policy of substituting community care for hospital residence for people with long-term mental health problems. As the relocation of patients is accomplished in an increasingly cost-conscious practice environment, few service providers are able to avoid asking about the resource implications of care or treatment decisions. Accurate cost information is therefore essential.

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The North East Thames Regional Health Authority – 1 of 14 regions in England – reaffirmed their commitment to the national policy of service relocation in 1983 when the decision was taken to concentrate capital and revenue resources on developing services that would allow the closure of Friern and Claybury hospitals. A research programme was commissioned to evaluate the impact of this 'psychiatric reprovision'. The Team for the Assessment of Psychiatric Services (TAPS), under the direction of Professor Julian Leff, are undertaking detailed assessment of patients before they leave hospital and follow-up appraisal of leavers, in the community, 1, 2 and 5 years after discharge. Information collected includes personal characteristics such as gender, age, marital status and original diagnosis; and detailed clinical, behavioural and social characteristics (O'Driscoll and Leff 1993).

Responsibility for the economic evaluation of community and hospital services lies with the Personal Social Services Research Unit (PSSRU), University of Kent at Canterbury. By working closely with TAPS at the 1- and 5-year follow-ups, the PSSRU's original remit was to describe services used by former in-patients, to cost this psychiatric reprovision and to examine cost-outcome links. However, as reported in this paper, the size and comprehensiveness of the dataset have made it increasingly possible to examine other cost associations and to explore policy issues.

Description of the study population

The criteria for entry to the study ensure that people have been in-patients for a minimum of 1 year and, if over 65 years old, do not have a diagnosis of dementia. Although the follow-up study now includes data on the earliest leavers after 5 years in the community, we have concentrated here on the costs of psychiatric reprovision for clients 1 year after hospital discharge: 341 people for whom we currently have comprehensive costs data.

The comprehensive costs sample

For convenience, we distinguish and describe groups of leavers in terms of annual cohorts, each cohort running from September to August. The first cohort (people who left hospital in 1985 and 1986) comprises 44 clients, 38 of whom were included in the cost study. Subsequent cohort and cost sample sizes were 118 (87 in the costs sample), 119 (82), 78 (47) and 140 (87). The cost sample is smaller than the full set of leavers because 16 clients died before the community interview, 44 clients were readmitted to hospital for too long for reliable community information to be collected, and other clients or carers refused to be interviewed or had moved away from the London area. Two residential units did not make accounts information available and one unit denied access to the interviewer.

Individual characteristics

Over three-quarters of the people in the costed sample had a primary diagnosis of schizophrenia. Other diagnoses were affective disorder (9%), neurosis and personality disorder (9%) and organic disorders (4%). At the time of interview in the community, sample members were aged between 23 and 98 years (with a mean of 56 years); two-thirds of the leavers were single and 10% divorced. Just under half of the sample are female and 10% are of non-white ethnic origin. Length of the most recent hospital admission ranged between 1 and 60 years with a mean of 17 years. Although the numbers leaving Friern and Claybury Hospitals each year have varied, approximately half the people in our sample came from each hospital (Knapp et al. 1993).

Relative dependency of successive cohorts

As in most community resettlement schemes, the less dependent patients were moved from hospital first, their needs presenting fewer challenges to purchasers and providers. The development of efficient community services takes time and involves professional and political risks. These risks will be fewer for those patients whose needs are more easily met (Knapp 1994). Leavers in the first three cohorts were younger, had spent less time in psychiatric hospitals, were less likely to have a diagnosis of schizophrenia, had larger social networks and had expressed more positive views about leaving hospital than patients remaining after these three groups had left (Jones 1993). The transfer of people with higher needs has meant that each succeeding cohort has become more and more similar to the remaining hospital population, with Cohort 5 no different from the overall hospital average in terms of personal, clinical, behavioural and social characteristics (Knapp et al. 1993).

Service receipt

Data collection

The Client Service Receipt Interview (CSRI), an instrument developed by the PSSRU, is used to collect the client-specific data which allow us to describe and cost individual packages of care (Beecham and Knapp 1992). Our aim is to reflect living arrangements, service use and client income and expenditure in the 12th month after the index discharge, adjusting for regularly but infrequently used services over the previous year. This schedule has been designed to cover every aspect of each person's life in a community setting and, because of the range and detail of information required in order to calculate costs, the interview is usually conducted with a paid carer.

Table 1. Clients in cost sample by type of accommodation and its managing agency (1 year after leaving hospital)

Type of accommodation	Managing agency for accommodation						
	DHA *n*	SSD *n*	VOL *n*	PRIV *n*	HSG *n*	CON *n*	Total *n*
Residential home	99	31	9	25	0	0	164
Hostel	14	6	28	4	0	8	60
Sheltered housing	0	1	5	0	0	0	6
Staffed group home	0	5	16	10	0	10	41
Unstaffed group home	9	2	13	0	0	3	27
Foster placement	0	11	0	0	0	0	11
Independent accommodation	1	1	3	3	23	1	32
Total	123	57	74	42	23	22	341

Notes: DHA = district health authoriy; SSD = local authority social services department; VOL = voluntary organisation: PRIV = private sector agency; HSG = local authority housing department; CON = consortium arrangement

Accommodation arrangements

We give accommodation arrangements particularly close attention. The accommodation offered to former hospital in-patients is an important element in the description of community care practices and accounts for approximately 85% of the cost of supporting people in the community. Many in-patients moved from hospital under special financial arrangements (dowries) where a sum of money, equal to the average revenue cost of a hospital bed, was transferred from the hospital budget to the community services provider taking responsibility for that person. Most people moved to accommodation within the eight district health authorities and nine local authorities in London for which the two hospitals have provided in-patient facilities.

To facilitate analysis we use standardised definitions of accommodation types, distinguished by levels of staffing and numbers of places (see Table 1). In other contexts the names used by the PSSRU might have different, or more nebulous meanings, so it is important to emphasise exactly how we interpret these terms.

A *residential or nursing home* is defined as a unit which has continuous staff cover by day and waking night staff, while a *hostel* has sleeping-in or on-call staff during the night and continuous or regular staffing by day. In both cases the number of client places is six or more. *Sheltered housing* units (individual flats or bed-sits as part of a larger complex) have continuous or regular staff cover by day and waking, sleeping or on-call staff at night. A *staffed group home* has similar staffing arrangements but is a single living unit which provides between one and six resident places. Although an *unstaffed group home* also has fewer than six places, it has ad hoc or no day staff and on-call or no night cover. A client in an *adult foster placement* moves into an established household and has regular foster family support by day and on-call night support. Finally, most clients in *independent accommodation* (usually rented public sector housing) will be looking after themselves, or being supported by informal carers; in some cases ad hoc day staffing and on-call night cover is provided by outreach services.

Almost half of the people in the costed sample were living in residential or nursing homes one year after leaving hospital (Table 1). This high number is not surprising as, by definition, homes in this category provide a high level of support on-site and are more similar to in-patient care than any other of our community accommodation categories. However, there are as many differences as similarities. A community-based unit with 24-hour staff cover for 20 clients provides a very different living environment than a long-stay psychiatric hospital with several hundred patients living in large wards.

Table 1 shows the variety of agencies which manage the accommodation units. Approximately one-third of clients live in accommodation managed by district health authorities (DHAs), the agencies which managed (and funded) the psychiatric hospitals from which clients came. By transferring the responsibility for care between DHAs, the dowry finances remain within the public sector national health service. Private sector (for-profit) provision is also concentrated around units with 24-hour staff cover, due in part to regulations governing clients' social security entitlements which fund these placements. Social services departments (SSDs) and voluntary (non-profit) organisations provide accommodation facilities across a range of categories.

Consortia have developed only recently. By linking with voluntary organisations and obtaining registered charity status, these arrangements allow DHAs to access funds from multiple sources. A large part of consortium income is derived from health authorities, but access to a higher rate of social security benefits is also possible. Under consortium management arrangements there is a trend towards smaller and less highly staffed units than DHAs otherwise provide. Data for the most recent group of leavers have separately identified these arrangements as one quarter of this group were living in accommodation managed by consortia. However, changes in social care funding arrangements from 1 April 1993 may mean that fewer of these organisations are introduced in future.

Table 2. Service utilisation – percentage use by cohort

Selected services	Percentage of clients using service				
	Cohort 1 %	Cohort 2 %	Cohort 3 %	Cohort 4 %	Cohort 5 %
DHA hospital services					
Hospital in-patient	18	22	5	17	21
Hospital out-patient	40	15	24	40	22
Hospital day-patient	50	21	20	19	25
DHA community services					
Community psychiatry	40	54	76	45	70
Psychology	3	1	35	2	26
Nursing	37	31	21	28	38
Familiy health services authority					
General practitioner	76	69	96	79	79
Dentistry	21	21	29	15	28
Local authority services					
Field social work	55	41	21	23	16
Day care	26	35	20	23	9
Education	5	14	2	0	3
Police	5	2	2	0	17
Voluntary organisation services					
Day care	5	23	21	13	24
Social club	0	2	11	0	12

Use of other services

The provision of shelter and associated care accounts for a large proportion of total community care cost, but individual care packages are made up of a wide variety of other services. Indeed, more than 40 different services have been used by study members at some time and all have been costed; however, recent analysis of the services used by sample members show that just five core services account for 94.4% of the total cost of community care. Apart from accommodation facility costs, these services are: National Health Service (NHS) day care, hospital in-patient care, local authority social services day care and voluntary sector day care (Knapp and Beecham 1993).

Table 2 lists the percentage of clients in each cohort who have used the four core services. It also includes the other most widely used services which, while accounting for only a minute amount of the total cost of client care, provide vital components of support. For example, although the contribution to total cost of the general medical practitioner was small (less than 1%) about three-quarters of people in each cohort used these services during the 12 months after discharge, for both physical and mental health care.

As we would expect, the table shows that the historical domination of NHS provision in psychiatric care continues. Access to hospital services remains an important facet of community care, with many cohort members having short in-patient admissions, regular out-patient appointments or attending treatment or work-orientated day

places. Although these tended to be specialist psychiatric services, treatment for physical health was also common. Local authority SSDs are the main suppliers of social care support, with the voluntary sector providing some day care services. The involvement of all three agencies in day care provision ensures a range of service types from treatment centres to 'drop-ins'.

An examination of the changes in service use over time allows us to examine how community services are responding to the demands of the developing mixed economy of client care. For example, over time there has been a reduction in the use of SSD provided day care and social work. It is feasible that social services have reached the limit of their provision within currently available resources (Beecham et al. 1991 a).

Contact with police services was negligible until Cohort 5, when there was a dramatic rise. In half the cases at Cohort 5 police became involved when clients caused a disturbance in public or had wandered too far to find their way back to the accommodation unit. In addition, staff from two housing projects organised visits from community police officers to discuss issues such as road safety.

As well as hospital care, DHAs provide community based services (psychiatry, psychology and nursing services). Increasingly, clients have tended to use the community psychiatrist although this is not matched by such a clear reduction in use of out-patient services. In all cohorts, chiropody is used by more than a quarter of clients with a real increase in use at Cohort 5. Some changes in service use over time appear to be influenced by accommodation arrangements. For example, a number of purpose-built, highly staffed DHA units, planned at the beginning of the reprovision programme, came on-stream for Cohort 3 leavers. Use of these new-build units with on-site nursing staff may have contributed to a fall in the number of people using in-patient hospital services in Cohort 3, a figure which has otherwise remained constant.

The costs of community care

Methodology

In costing the 'package' of community care each client receives 1 year after the move from hospital, we are guided by four rules. Costs should be measured comprehensively, to include all service components. The differences in cost between individual clients should not be overlooked but examined and explained for policy insights. Any comparisons drawn from these examinations should be on a like-with-like basis. Finally, cost information is of most use when combined with outcome evidence (Knapp and Beecham 1990). The CSRI, described earlier, provides the basis for applying the costing mechanisms. Three types of information are used to attach costs to services: facility-specific accounts; national data on pay and working conditions; and similar local data (Allen and Beecham 1993).

The basic principles of economic theory and the realities of community care policy lead us to use long-run marginal opportunity costs. Marginal cost is the addition to total cost attributable to the inclusion of one more client. By opportunity cost we mean that the resource implications should reflect opportunities foregone rather than amounts spent.

Because national policy intentions are to replace long-stay hospital beds with community based services, it is clear that the current levels of community provision will not be adequate to meet the needs of this client group, so it would be inappropriate to measure only short-run cost implications. Today's short-run average revenue cost, plus appropriate capital and overhead elements, is close to the long-run marginal cost for most services, so this is the convention adopted (Beecham and Knapp 1992, p173).

Table 3. Cohorts of leavers and their costs

Cohort	Year of leaving	Year of costing	Cost per Week (£)[a]	Costed sample size	Full population of leavers
1	1985/86	1986/87	306	38	44
2	1986/87	1987/88	448	87	118
3	1987/88	1988/89	582	82	119
4	1988/89	1989/90	477	47	78
5	1989/90	1990/91	544	87	140
Cohorts 1–5 average/total			493	341	499

[a] At 1992–93 prices, inflating 1989–90 prices using the Department of Health general PSS inflator

Table 4. Total weekly cost by type of accommodation facility[a]

Accommodation type	Total cost per week (£)	Accommodation cost per week (£)	Sample size
Residential or nursing home	603	550	164
Hostel	466	384	60
Sheltered housing	170	121	6
Staffed group home	449	371	41
Unstaffed group home	375	245	27
Foster placement	360	245	11
Independent	242	138	32
Total	493	419	341

[a] At 1992–93 prices, inflating 1989–90 prices using the Department of Health general PSS inflator

Costs descriptions

Table 3 describes the comprehensive costs of community care for succeeding cohorts of leavers in our sample and shows that the average total cost of community care is £ 493 per week (expressed at 1992–93 prices in pounds sterling). Costs include those absorbed by accommodation-related services and the provision of all service components that make up clients' individual care packages. In general the costs have risen steadily year by year, reflecting increasingly intensive use of services. This may be re-

Table 5. Funding of community accommodation[a]

Sources of funding (%)	Managing agency for accommodation					
	DHA	SSD	VOL	PRIV	HSG	CON
District health authority	91.96	37.16	31.28	3.21	0.00	45.87
Local authority social services department	0.00	39.36	1.31	2.50	0.00	0.00
Voluntary organisation	0.00	0.00	7.23	0.00	0.00	0.00
Local authority housing department	0.06	0.19	0.19	0.20	29.13	0.29
Housing association	0.51	0.00	8.68	0.00	0.00	13.82
Local authority foregone local taxes	0.79	1.65	1.67	1.59	3.42	2.20
Housing benefit	0.05	0.49	0.44	0.89	12.26	4.11
Client contribution	6.63	21.15	49.20	91.61	55.19	33.71

DHA = district health authority; SSD = local authority social services department; VOL = voluntary organisation; PRIV = private sector agency; HSG = local authority housing department; CON = consortium arrangement

[a] Relates to accommodation facility costs only; not total cost of care

lated to higher levels of client need (see above). Noticeably, however the cost increase for Cohort 3 was out of line with the general trend, in part reflecting the opening of the new DHA residential units which coincided with the height of the property price boom in the late 1980s.

Table 4 examines the proportion of total cost taken up by the various accommodation types. The table shows that the most expensive care packages were received by those people in residential or nursing homes, with accommodation costs making up 91% of that total. Earlier analysis of variance (ANOVA) point to significant cost differences between accommodation types. The results suggest that, relative to needs and outcomes, residential and nursing homes and hostels are more costly than predicted by the cost function, while other types are less costly (Beecham et al. 1991b). Generally, as the level of support in the accommodation unit diminishes so does the proportion of total cost which is absorbed by accommodation. Independent accommodation, where clients usually live in low-cost housing with little on-site support, is the least costly of the arrangements. There would perhaps be cause for concern if outside service receipt did not make a substantial contribution to the total cost of these clients' packages (43%), since this could indicate lack of access to services rather than lack of need.

Planning to meet the costs of community care

Aiming to build up a prediction equation which might help service planners structure community support for people with long-term mental health problems as they leave hospital, we have recently examined the associations between, on the one hand, service use and costs of people now living in the community and, on the other, the characteristics of those same people when they were hospital in-patients. While in hospital, clients were assessed using the Present State Examination (PSE; Wing et al. 1974) and the Social Behaviour Schedule (SBS; Sturt and Wykes 1986). TAPS also developed schedules to collect information on personal data and psychiatric history, physical health, attitudes, living skills, social networks and the restrictiveness of living environments. Data from all these schedules were used in the analyses. A full description of these schedules, which are also used in the community interviews, can be found in O'Driscoll and Leff (1993).

Our results suggest that clinical diagnosis is not a useful predictor of either service utilisation or costs. However, more than a third of the variation in community care costs could be explained by reference to client characteristics before discharge from hospital. Costs of community care are higher for people who have never married, are older, are male, spent shorter periods in psychiatric hospitals and have spent greater proportions of their lives in hospital. In terms of psychiatric symptoms and social behaviour, greater needs as indicated by higher sub-scores for non-specific neurotic syndrome and negative symptoms (PSE) and higher staff-reported ratings of abnormal behaviour (SBS) predicted higher cost (Knapp et al. 1994).

Funding arrangements

Several sources of funding contribute to the provision of community care. Currently in the United Kingdom, money from the Department of Health reaches individual district health authorities and family health services authorities by way of separate national or regional routes. District health authorities have traditionally held responsibility for mental health services, although the National Health Service and Community Care Act 1990 encourages local authorities to take a greater part. Local authority social services departments receive funding from central government departments and local taxes; voluntary organisations and housing associations are funded from local or district health authorities, central grants, donations and users' fees (usually paid from social security entitlements). Local authority housing departments bear some accommodation costs through provision of rented accommodation and housing benefit and an amount equal to local taxes foregone is included where clients are exempt from payment.

These agencies all provide funding for the support of the study population. Under the reprovision arrangements the money from hospital budgets was 'protected' for use on community mental health services for these clients. Much of this money went into the provision of specialised accommodation placements and less into other support services. Table 5, therefore concentrates on the funding of the community based accommodation used by these clients. Although DHAs have a substantial input into four of the six agencies which manage accommodation units, their percentage share of funding is now less than when they funded the old long-stay hospital placements. Other agencies, therefore, bear a greater part of that burden and are not always reimbursed for provision of these services.

As shown in Table 5, private sector accommodation relies almost entirely on client contributions for funding, a fact which emphasises the relationship between social security entitlements and proprietors' income. The breakdown of agencies funding voluntary sector accommodation is similar to that of consortium arrangements, which might be expected considering the charitable status of consortia. The table shows that only a small percentage of the funding burden of these agencies is met by the voluntary sector (which includes housing associations). Both rely heavily on the public sector and client contributions.

Costs, needs and outcomes

It is not the purpose of this paper to detail the findings of the outcome evaluation but, equally, it is important that costs are not viewed in a vacuum. For the first 475 leavers, the TAPS evaluation could find no adverse effects of relocation on clinical and social outcomes 1 year after discharge, when compared to similar data for the matched group. Moreover, statistically significant differences between leavers and their matches over time were revealed in terms of positive attitudes to present accommodation and a reduction in the restrictiveness of the environment (Anderson et al. 1993).

In order to discover whether there was an association between costs, needs and outcomes, we explored the variations between the clients for whom we had comprehensive community costs data at an earlier stage of the evaluation (the first three cohorts of leavers). Individual outcomes were measured as changes over the time between hospital and community assessments along various symptom, behavioural and social dimensions, again based on the information gathered by TAPS. Multivariate analysis of the links between costs, needs and outcomes found that higher levels of spending were associated with greater improvements in the health and welfare of former hospital residents (Beecham et al. 1991b).

Discussion

These are encouraging findings at a time when many countries are committed to a policy of developing comprehensive community care for people with mental health problems and reducing dependence on hospital beds. However, the relocation of care in North East Thames has not eliminated the need for the hospitals and the services they provide. For example, although most clients appear to be stable and are encouraging in their responses to their new homes, a few are reported to be grieving for the hospital and some people attempt to return when life in the community becomes too demanding. Maintaining some form of contact with old friends, staff and familiar surroundings has been important to the continuity of most leavers' lives. Closure of the hospitals means another major adjustment and structures should be put in place in recognition of these needs.

From a service perspective, even though long-stay hospital residential services have been re-located, the demand for day-patient, out-patient and short-stay in-patient facilities still exists. To provide adequate and appropriate community-based care for people with high support needs, it is vital that all services which the long-stay hospitals provided are 're-located' appropriately and in sufficient number.

The variety of accommodation types used by members of this study reflects their different service demands and needs, but over and above this a range of other services is required to provide comprehensive support. Even in the highly staffed accommodation units not all the components of care packages can be provided in-house. Psychiatry, psychology, chiropody and social work services are usually supplied on a peripatetic basis and recreational and leisure activities are still required. In the CSRI, carers are asked whether there are any services the client needs but does not receive. Lack of suitable day-care and advocacy services are often mentioned. However, shortage of personal money is generally considered to be the major problem. Despite efforts to allow residents to choose their own room furnishings or be involved in managing the home, it is difficult to encourage integration into community life if a cinema ticket or snack meal takes nearly half their weekly income.

The reprovision of long-stay hospital services in North East Thames is a well-planned and well-financed programme; two factors which have undoubtedly contributed to its success. At the time the first patients were being prepared to move to the community in 1985 the two hospitals had a total of 1823 beds. In addition to general medical and nursing care, supervision of medication, monitoring and assessment, they provided residents with hotel services, day activities and social support. In the community, these services are provided by a range of agencies, but adequate funding is crucial to enable replacements for all these service areas to be in place before patients move out of hospital. Importantly, our data highlight the distribution of funding between providing agencies. The burden no longer accrues solely to the health authority as it did when hospitals provided care for this client group, but at present the load is far from evenly distributed between agencies or services (Knapp et al. 1992). The implementation of the National Health Service and Community Care Act 1990 has brought about organisational changes as well as those designed to shift the onus of financial responsibility.

Even in the fast-changing world of care policy, implementation and practice, the research evidence points to a

successful approach that can be transferred to other closure programmes.

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References

Allen C, Beecham JK (1993) Costing services: ideals and realities. In: Netten A, Beecham J (eds) Costing Community Care: Theory and Practice. Ashgate, Aldershot

Anderson J, Dayson D, Wills W, Gooch C, Margolius O, O'Driscoll C, Leff J (1993) Clinical and social outcomes of long-stay psychiatric patients after one year in the community. In: Leff J (ed) The TAPS Project: Evaluating community placement of long-stay psychiatric patients. Br J Psychiatry 162, Supplement 19:45–56

Beecham J, Fenyo A, Knapp M (1991a) The mixed economy of mental health care. PSSRU Bulletin, No 8:8–9

Beecham JK, Knapp MRJ, Fenyo A (1991b) Costs, needs and outcomes: community care for people with long-term mental health problems. Schizophr Bull 17, 3:427–439

Beecham JK, Knapp MRJ (1992) Costing psychiatric interventions. In: Thornicroft GJ, Brewin CR, Wing JK (eds) Measuring mental health needs. Oxford University Press, Oxford

Jones D (1993) The selection of patients for reprovision. In: Leff J (ed) The TAPS Project: Evaluating community placement of long-stay psychiatric patients. Br J Psychiatry 162, Supplement 19:36–39

Knapp M (1994) Community mental health services: towards an understanding of cost-effectiveness. In: Tyrer P, Creed F (eds) Evaluation of Community Psychiatric Services. Cambridge University Press, Cambridge (forthcoming)

Knapp M, Beecham J (1990) Costing mental health services. Psychol Med 20:893–908

Knapp M, Beecham J (1993) Reduced-list costings: examination of an informed short cut in mental health research, Discussion paper 939, Personal social services research unit. University of Kent at Canterbury

Knapp M, Beecham J, Gordon K (1992) Predicting the community cost of closing psychiatric hospitals: National extrapolations. J Ment Health 1(4):315–326

Knapp M, Beecham J, Hallam A, Fenyo A (1993) The costs of community care for former long-stay psychiatric hospital patients. Health Soc Care Community 1(4):193–201

Knapp M, Beecham J, Fenyo A, Hallam A (1994) Predicting costs from needs and diagnoses: community mental health care for former hospital in-patients. Br J Psychiatry (forthcoming)

O'Driscoll C, Leff J (1993) Design of the research study on the long-stay patients. In: Leff J (ed) The TAPS Project: Evaluating community placement of long-stay psychiatric patients. Br J Psychiatry 162, Supplement 19:18–24