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Service Organisation, Service Use and Costs of Community Mental Health Care

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Abstract

Background: Different forms of service organisation may be expected to affect costs. It is important to understand the distribution of costs amongst providers of mental health care, so that the effect of service developments on budgets can be better anticipated and planned.
Aims: This study explored the association between different forms of mental health service organisation and costs. It tested the impact on costs of services with high degrees of integration between health and social care providers, and of services targeting at people with more severe mental health problems.
Methods: 260 service users in 4 districts in the north of England were interviewed and costs identified for each person. The districts comprised examples of four types of service configuration. Use and non-use was compared by type of service, and after suitable transformations, costs were also compared between districts and between types of service. The sample was large enough to discern a difference of £50 (€ 80) per week with 80% power and 5% significance.
Results: Costs were closely related to severity. People in targeted services had higher mean costs (£136, SD £191 versus £92, SD £106; p=0.001). The costs of targeted services in this study were very similar to those of psychosis-only services in a London study. Integrated services were predicted to have lower inpatient costs (p=0.003), lower PCG costs (p=0.003) and lower total health and social care costs (p=0.024). Differences between use and costs of specific services were largely attributable to imprecise definitions and supply-side factors.
Discussion: While the sample is not representative, the a priori distinctions made in selecting the districts were reflected in service use and costs. This study suggests strongly that targeting services at people with more severe mental health problems seems likely to increase mean health and social care costs per service user. It also suggests that integration maybe associated with lower costs. Since both targeting and integration are increasingly common mental health policies, it is important to recognise that they may have opposing effects on costs.

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Background

Within a single mental health care system, different ways of organising health services are likely to have different costs. Costs can vary because of the types of services provided, or because of the intensity with which they are used. Moreover, it is not sufficient to consider the costs to the health service alone. For instance, changes in mental health services, such as increasing interventions or reducing frequency of contact, are likely also to have implications for other agencies that support people with mental health problems in the community, most notably carers and social services. Therefore it is important to understand the distribution of costs amongst these key providers of mental health care. It is also desirable to be able to identify predictors of costs variations. In this way, the effect on budgets of service developments can be better anticipated and planned.

Aims

In this study, we explore associations between different types of mental health service organisation and costs. We test whether costs of care for people with more severe mental illness differ from those for other service users. Finally, we investigate the factors that predict costs.

Methods

Sample selection

We interviewed 260 people with mental health problems selected at random from the active caseloads of four mental

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health services in the north of England. These districts were chosen after a survey of all mental health trusts in the country enabled us to identify them as having distinctive forms of service organisation.[1] Two mental health services worked closely with the local social services department ('integrated'), and two worked independently ('discrete'). Two saw a broad range of clients ('inclusive'), and two focused their service on people with more severe mental health problems ('targeted'). The districts represented the four possible permutations of these variables: Knowsley - discrete and targeted; Lancaster - discrete and inclusive; Dewsbury - integrated and targeted; and Northumberland - integrated and inclusive.

All the mental health teams studied could be called multidisciplinary community mental health teams (CMHTs). They were typically made up of several mental health nurses, several support or outreach workers, one psychologist and one psychiatrist. In the integrated districts, social workers formed part of the CMHT. The local level of mental health need was compared using the Mental Illness Needs Index (MINI; Glover *et al.*, 1998).[2] At the time of the study (1998), Knowsley had two CMHTs serving an urban area of relatively high social deprivation (MINI 114 in Central, range 92-130; 107 in South, range 92-116). Lancaster, an urban and semi-rural area, had one CMHT and one network of primary care-based mental health professionals working to a single psychiatrist specialising in rehabilitation (MINI 104, range 82-131). Dewsbury, a mainly urban area, had a CMHT, supplemented by an intensive home treatment team (MINI 101, range 88-114). Northumberland had three CMHTs based in the southern part of the large county, serving mixed urban/rural areas. Some of the professionals were based in primary care (MINI 101, range 75-119). MINI scores above 100 indicate areas of relatively high need for mental health services.

Service users were assessed using a range of instruments, including: the Global Assessment Scale (GAS),[3] which assesses functioning on a scale of 1-99, where higher scores indicate better functioning; the Health of the Nation Outcome Scales (HoNOS),[4] which ranges from 0 to 48 and has higher scores for more severe problems, and the MARC2,[5] which generates a summary scale called the M3 with higher scores for greater severity of metal health problems (range 0 to 14 for this study).

Costs Data Collection and Estimation

The service provider's perspective guided costs estimation. Comprehensive service use information was collected using the Client Service Receipt Inventory.[6] This included accommodation costs, as well as hospital and community-based health care, social services and primary care. Service use was estimated by interviewing each person about their use of services and other activities during the past three months. This was converted to units (e.g. minutes per week or appointments per week, as appropriate). It was costed following recognised conventions,[7,8] by attaching marginal, long-run opportunity costs. Most of these were derived from published generic costs for 1998.[9] However, since community mental health team (CMHT) costs were expected to vary considerably and to constitute a major element in overall costs, specific costs were calculated for the CMHT in each district. The unit costs built up for the CMHTs included office premises, overheads, travelling and administrative or secretarial staff. An average unit cost of contact with a member of the team is therefore weighted to incorporate all its members. The CMHT costs per minute ranged from 66p to 99p (approximately 1 to 1.5 euros). Productivity losses for service users and their carers were not included, since the study was interested primarily in the impact on providers (rather than on users or carers) of different forms of service organisation.

Some services are provided as part of specialist accommodation for people with mental health problems. For instance, hospital inpatients receive care as well as accommodation. To enable comparisons to be made across domestic and specialist settings, accommodation costs were estimated in the following ways, to approximate to the opportunity cost of the space occupied.

For people living independently in the community, in normal domestic settings, accommodation was costed using the property values from a national mortgage lender, annuitised over 60 years at 6%, and combined with the actual local property charge (Council Tax). This 'housing cost' was then divided by the number of adults in the household.

For people living in private residential homes, the weekly rent was taken as a proxy for housing costs.

For people living in health or social services-funded group living situations, weekly costs were calculated from the annual budget, adding as above an element for capital costs and taking account of the occupancy rate of each establishment.

For the few people in supported lodgings we used the generic costs given in Netten *et al.*[9] These costs include an element for personal consumption and living expenses because they cannot be disaggregated from services received as part of the support provided. We did not measure such expenses (e.g. heating, food) for people living in their own accommodation, so care should be taken in comparing people from domestic settings with those in non-domestic living arrangements. Differences in domestic accommodation costs between districts were explored, as well as differences in the average costs of non-domestic accommodation between districts.

Methodological Problems

Service costs variations are so great that clinical studies seldom have sufficiently large sample sizes to give them the statistical power to detect significant differences in costs, a point highlighted by Gray et al. (1997).[10] Indeed, the power calculation for this study was not based on costs variations but on quality of life outcomes, so we only have sufficient power to detect a difference per service user per week of £50 (€ 80) with 80% power and 5% significance.

This, and other difficulties surrounding costs evaluations in mental health care have been presented succinctly by Chisholm (2000).[11] For instance, a feature of costs data is the high proportion of non-service users, generating zero costs and a high positive skew. The latter is commonly overcome, as advised by Drummond and Jefferson (1996),[12] by performing

Table 1. Characteristics of service users

	Dewsbury Integrated/ Targeted	Lancaster Discrete/ Inclusive	Northumb. Integrated/ Inclusive	Knowsley Discrete/ Targeted	All
N	58	70	69	63	260
Mean Age	42	44	46	43	44
Standard Deviation	12	11	11	12	12
	%	%	%	%	%
% Male	57	51	52	51	53
% White British	81	99	97	95	93
% With Partner/Spouse	31	20	30	14	24
% Employed	9	2	20	36	17

log transformations of the data. However, this approach obviates the fact that it is often the arithmetic mean, rather than the geometric mean, that is of interest, and log transformations take the geometric mean. For most purposes (for example, in service planning or budget allocation) non-service users should be included in the calculation of the costs of a service, since equal rights to care mean that similar levels of support should be provided to similar populations of potential service users.

Some Potential Solutions

We address these difficulties in several ways. First, we present the percentages of the sample who used each of a range services in the four districts studied. We then look separately at service use and non-use, exploring some factors that are associated with service receipt, and using non-parametric tests of significance. Thirdly, we report a range of descriptive statistics that has been chosen to show the distribution of costs. In addition to mean and standard deviation, we give median costs and inter-quartile ranges for those people using services. Finally, we bring to bear on the data statistical techniques chosen to permit reliable comparisons of mean costs despite highly skewed data: Box-Cox transformations, smoothed histograms, and generalized linear models (GLM) using a Gamma distribution with log link, advocated as the preferred method for handling health care costs by Diehr et al (1999).[13] We have not employed bootstrap methods as recommended by Davison and Hinkley (1997)[14] or Chisholm (2000).[11] While these do appear to solve many problems, there remains some doubt amongst statisticians as to the credibility of the results: "*The bootstrap is a fairly crude form of inference, that can be used when the data analyst is either unable or unwilling to carry out more extensive modelling*" (Efron and Tibshirani, 1993).[15]

Simple Box-Cox transformations are of the following form, where y is the variable and v a suitable power transformation.

$$y \rightarrow (y^v - 1)/v, v \neq 0$$
$$y \rightarrow \log(y), v = 0$$

Software is used to estimate v.[16] Whilst there are difficulties with interpreting the parameters for the transformed model, our main focus is on testing for differences between districts and approaches. An alternative to such transformations is provided by GLMs using a Gamma distribution with log-link,[17,18] which explicitly takes account of the skew in the distribution of costs. We found, as theory suggests, few practical differences between the two approaches. The results we report below are taken from the GLMs, correcting for user age and sex, living situation, employment and severity of mental illness as measured by HONOS. The results with/without such corrections differ only very slightly. Analysis of deviance was used to examine the contributions of explanatory variables.

Smoothed histograms are obtained by using an algorithm which estimates the probability density function by dispersing the mass of the observed distribution over a rectangular grid of 512 points. Because of the smoothing algorithm, points are introduced at both ends of the actual data range; for example, the smoothed version of data that is non-negative but has considerable mass at zero typically has non-negative density for negative values.[16]

Results

Table 1 and **Table 2** present a profile of the service users. Mental health problems were more severe on average in the targeted districts, as intended by our sampling strategy. There were no significant differences in psychopathology on the other service dimension, that between integrated and discrete districts.

Table 3 shows the level of use of services by people in each district and in the sample as a whole. Community mental health care was the most frequently used service overall (88%), followed by primary care, outpatient services, and social services. Because of differences in local service organisation, which may be taken as a supply-side factor, comparisons between sub-headings are inherently unreliable and are mostly not discussed here. For instance aggregate variables (shown in bold capital letters in **Table 3**) show some variation between districts that can be explained with reference to their

Table 2. Mental health indicators

	Dewsbury Integrated/ Targeted	Lancaster Discrete/ Inclusive	Northumb. Integrated/ Inclusive	Knowsley Discrete/ Targeted	Overall	Standard Deviation
N	58	70	69	63	260	
GAS	58.35	64.97	63.98	60.78	62.36	15.14
M3	5.39	4.20	3.88	5.08	4.60	2.39
HoNOS	11.45	10.06	12.09	12.97	11.61	7.46
	%	%	%	%	%	
% Dx schizophrenia	41	50	36	67	48	
% Dx bipolar disorder	21	21	29	16	22	
% Dx depression	33	24	16	13	21	

Table 3. Service use

	Dewsbury Integrated/ Targeted	Lancaster Discrete/ Inclusive	Northumb. Integrated/ Inclusive	Knowsley Discrete/ Targeted	Overall
N	58	70	69	63	260
	%	%	%	%	%
INPATIENT	13.8	10.0	11.6	12.7	12.0
OUTPATIENT	62.1	74.3	17.4	69.8	65.0
COMMUNITY MH CARE	91.4	94.3	73.9	93.7	88.0
Psychiatric O/P	58.6	68.6	8.7	61.9	49.2
Consultant psychiatrist	24.1	0	26.1	1.6	13.1
Senior registrar	0	1.4	4.3	0	1.5
Psychologist	1.7	4.3	7.2	1.6	3.8
CPN	10.3	2.9	2.9	1.6	4.2
Key Worker	53.4	47.1	4.3	44.4	36.5
Learning disability nurse	0	0	2.9	0	0.8
CMHT member	15.5	2.9	2.9	1.6	5.4
Therapist/Counselling	1.7	7.1	1.4	0	2.7
Groupwork	0	1.4	1.4	0	0.8
Outreach worker	1.7	5.7	2.9	22.2	0
SOCIAL SERVICES	12.1	20.0	82.6	25.4	36.0
Social worker	5.2	4.3	0	15.9	6.2
Care manager	0	1.4	49.3	0	13.5
Home care	5.2	11.4	4.3	7.9	7.3
DAY OCCUPATION	56.9	44.3	39.1	46.0	46.0
Local authority daycentre	6.9	11.4	1.4	6.3	6.5
Community MH centre	5.2	0	0	0	1.2
NHS day centre	5.2	8.6	4.3	6.3	6.2
Voluntary day centre	12.1	2.9	4.3	6.3	6.2
Sheltered work	0	0	20.3	0	5.4
Education	1.7	14.3	1.4	7.9	6.5
ANY PRIMARY CARE	65.5	78.6	72.5	74.6	73.0
General practitioner	36.2	45.7	34.8	39.7	39.2
Dentist	29.3	25.7	10.1	20.6	21.2
Optician	12.1	14.3	14.5	12.7	13.5
Chiropodist	5.2	8.6	8.7	11.1	8.5
OTHER COSTS	3.4	2.9	2.9	0	2.0

*Note:*The aggregate services (inpatient, outpatient, community mental health, social services, day care, primary care and other) are shown in capital letters. Each heading in capitals summarises the service use rates for all the component services laid out below it in lower case up to the next capitalised heading.

Table 4. Differences in services received by service approach

Hypotheses tested using Fisher's exact test, total N=260	
Integrated services more likely to receive:	Discrete services more likely to receive:
Consultant psychiatrist (p<0.001)	Outpatient appointments (p<0.001)
Care manager services (p<0.001), Community mental health team input (p = 0.021)	Key workers (p = 0.001), Social worker services (p = 0.011), Outreach worker (p = 0.001)
Sheltered work (p<0.001)	Education (p = 0.001), Occupational therapy (p = 0.004)

components. Seventy-four per cent of service users in Lancaster and 70% in Knowsley had outpatient appointments in the previous three months, as compared to 17% in Northumberland and 62% in Dewsbury. This discrepancy can be explained by the finding that few people in Lancaster and Knowsley apparently saw their consultant psychiatrist (0 and 1.6% according to **Table 3**). The apparently inverse relationship suggests that some substitution is occurring between 'outpatients' and 'consultant psychiatrist', which is in fact due principally to how services are defined locally or where appointments are held (in hospital or community settings). These differences were statistically significant as shown below, but are not really meaningful for the purpose of our analysis. Similarly, the high use of 'care manager' in Northumberland is related to the low use of 'key worker', since these professionals do the same job in the context of integrated mental health teams operating in that locality.

Integrated versus Discrete Service Receipt

Table 4 illustrates that a high probability of receiving a given service in one type of approach usually meets with a high probability of receiving a very similar type of service in the opposite type of approach. In other words, there is evidence of substitution of similar services. This applies to occupational services as well as to outpatients appointments/consultant psychiatrist appointments and key worker/care manager as already discussed.This substitution has the effect of cancelling out most of the costs differences when comparisons are made at the level of aggregate services.

Housing costs

Housing costs generally make up a large proportion of total costs.[19] Since numbers in supported housing vary and costs of supported housing are generally higher than the costs of domestic accommodation, here we analyse housing costs separately from total costs. **Table 5** shows the mean costs of accommodation for people in the study, according to whether they lived in domestic housing or in some form of supported housing (for the financial year ending in 1999). It is clear that there was a higher proportion of people in supported housing in Knowsley than in other areas (Chi-square=12.49, df=3, p=0.006). There are no significant differences in cost of

Table 5. Accommodation costs per week

	Dewsbury Integrated/ Targeted	Lancaster Discrete/ Inclusive	Northumb. Integrated/ Inclusive	Knowsley Discrete/ Targeted	All N=221
Domestic N	52	61	63	46	221
£ Mean	64.09	50.60	40.97	39.62	48.79
Standard deviation	118.75	19.57	18.78	17.55	60.21
Non-domestic N	6	9	6	18	39
£ Mean	359.37	191.02	403.36	322.55	310.29
Standard deviation	313.37	61.30	197.66	77.30	163.44

Table 6. Comprehensive costs per week for those people who used each service

	Dewsbury		Lancaster		Northumberland		Knowsley	
N	58		70		69		63	
£ per week	Mean	Median	Mean	Median	Mean	Median	Mean	Median
	Standard deviation	Quartiles 1 & 3	Standard deviation	Quartiles 1 & 3	Standard deviation	Quartiles 1 & 3	Standard deviation	Quartiles 1 & 3
Inpatient	24.41	.00	18.05	.00	4.80	.00	26.83	.00
Outpatient	114.97	.00, .00	109.42	.00, .00	18.23	.00, .00	100.73	.00, .00
	.69	.00	1.25	.00	.88	.00	1.73	.00
Community Mental Health	2.14	.00, .00	3.80	.00, .00	3.94	.00, .00	4.79	.00, .00
	53.47	28.10	29.83	23.77	18.97	7.26	52.70	22.58
Other SSD	93.04	11.96, 70.69	25.90	12.72, 39.68	28.54	.84, 26.21	66.89	8.28, 67.29
	5.81	.00	3.00	.00	13.16	6.66	6.90	.00
PCG	21.60	.00, .00	7.56	.00, 3.79	16.69	1.48, 20.72	15.77	.00, 3.79
	3.76	2.00	15.34	5.69	3.71	2.00	6.20	2.90
Daycare	6.46	.00, 4.27	33.33	.82, 16.03	5.29	.00, 4.90	15.39	.05, 4.59
	28.72	.83	22.32	.00	30.60	.00	14.48	.00
Other	73.53	.00, 19.39	42.03	.00, 26.57	61.11	.00, 49.92	26.96	.00, 16.45
	1.57	.00	.45	.00	1.15	.00	.00	.00
All health & social care costs	9.24	.00, .00	2.63	.00, .00	7.39	.00, .00	.00	.00, .00
	152.57	63.13	107.86	68.10	74.98	55.40	120.39	58.98
	230.66	30.65, 181.77	129.72	36.80, 155.53	72.13	19.00, 123.86	145.04	27.93, 163.71

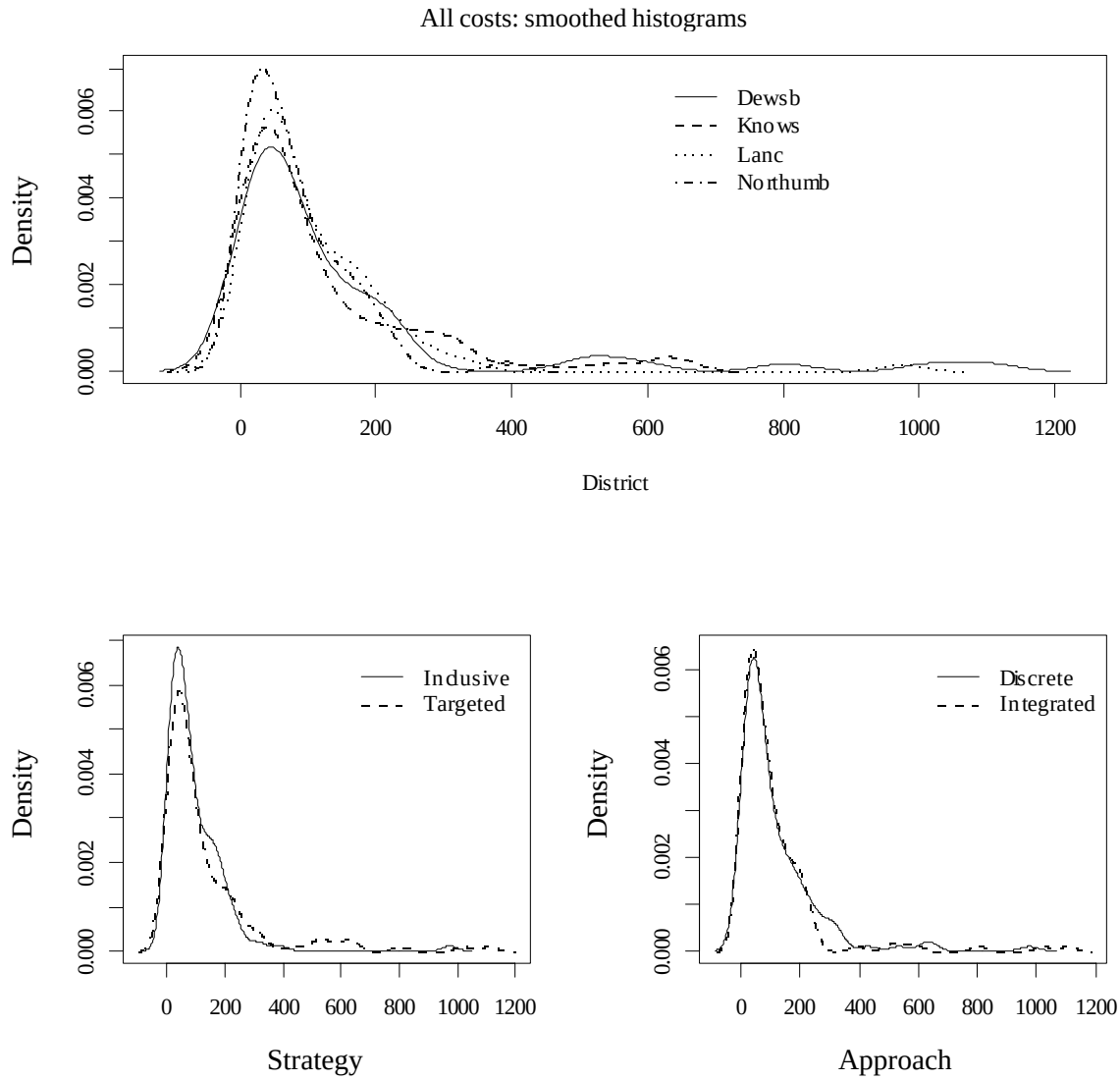

Figure 1. Smoothed histograms

housing, except that there is weak evidence of lower costs for domestic housing for Lancaster (GLM, p=0.013). Average costs for domestic housing for Dewsbury are higher still, but with much higher variability.

Table 6 summarises the average weekly costs and the typical weekly costs for each of the principal sources of support for people with mental health problems living in the community. The largest element is community mental health costs, but day care (comprising day centres, specialist work schemes and education) also accounts for a large part of the total expenditure.

Bearing in mind that we only have two examples of each approach and each strategy, it is interesting to note that the larger share of costs borne by social services in integrated districts is statistically significant using a t-test of independent means (p=0.019, 95% CI 2.69, 29.48). In targeted areas, the costs borne by the health service were significantly higher than in inclusive areas (p=0.010, 95% CI 9.39, 67.31). The more equal share of costs borne by social services in inclusive districts and integrated districts is attributable to substitution, as described above, operating in Northumberland: the fact that care managers, whose costs in this analysis are attributed to social services, perform key worker roles in this district. We refer to this phenomenon below as the 'Northumberland effect'.

Costs Differences between Districts, Strategies and Approaches

The smoothed histogram for all health and social care costs is shown in **Figure 1**, by district, approach (inclusive-targeted) and strategy (integrated-discrete). Our relatively small sample size suggests that only very large differences in costs are likely to be statistically significant. It is therefore interesting to find that there are some consistent differences between the costs of aggregate services that even override the "Northumberland effect". While the people most likely to use social care live in Northumberland, an integrated and inclusive district, when the *amount* of services used (costs) are measured, people in targeted districts clearly consume more. This is true for community mental health services and for social services, and consequently for total costs in targeted districts. It is therefore a fairly robust finding, and we infer

that higher costs of community mental health care and other social services for people in targeted areas probably reflect their higher needs. In the following section we explore this hypothesis.

Severity and Costs

To investigate the relationship between severity and costs for the whole sample, we first examined the GAS score as an indicator of severity of mental health problems. Standard product moment correlations were calculated between the GAS score and each of the cost variables, with sample size N=239 in each case. All correlations are negative, so that the pattern of association is high cost with severely ill users. Statistically significant correlations were: GAS with inpatient care (r= -.237; $p<0.001$); community mental health care (r=-.156; $p=0.021$); social services costs (r=-0.345; $p=0.001$); and all costs of health and social care (r=-0.282; $p<0.001$).

Differences between approaches were explored using GLMs, including GAS score, age, sex, ethnicity, and living situation as explanatory variables. With regard to patient characteristics, the GAS score was found to be a significant predictor for total costs (GLM, $p<0.001$), community mental health costs (GLM, $p=0.003$), other SSD costs (GLM, $p<0.001$), non-domestic accommodation costs (GLM, $p=0.001$), and domestic accommodation costs (GLM, $p<0.001$). In each case, less severe GAS scores were associated with lower costs.

Other Variables and Costs

User sex and ethnicity were found not to be strongly significant predictors for any cost. User age was found only to be a predictor of domestic accommodation cost (GLM, $p<0.001$), with higher costs for older users. Living situation was found to be a significant predictor for day occupation costs (GLM, $p=0.003$): lower costs for users living with parents, and higher costs for users living with spouses or others. Living situation was also found to be a strong predictor for costs of domestic accommodation (GLM, $p<0.001$: lower costs for users living with parents or spouses, and higher costs for users living with others.

Service Organisation and Costs

With regard to differences between different service organisations, correcting for user characteristics, including severity, we found the following features. Integrated organisations were predicted to have lower inpatient costs (GLM, $p=0.003$), lower primary care group costs (GLM, $p=0.003$) and lower total health and social care costs (GLM, $p=0.024$). Targeted organisations were predicted to have higher community mental health costs (GLM, $p<0.001$), lower day care costs (GLM, $p=0.040$) and lower costs for domestic accommodation (GLM, $p=0.033$). Evidence for the last two findings is clearly weak.

Comparative Findings

Actual service costs found for this sample of service users may be compared with those found in the PRiSM study of 'standard' versus 'intensive' community mental health care in London.[20] To make their costs comparable to ours, we divided their mean (standard sector) costs for six months by 26 (weeks), and up-rated them from 1995-96 to 1998-99, using the hospital and community health services inflation index from the NHS Executive.[9] We then deflated them using the non-London multiplier of 0.93 applied by Netten *et al.*[9]

Using this method, the mean cost of 'standard' psychiatric services (inpatient, outpatient and community) in the PRiSM study was estimated to be £63 per week (n=61), as compared to £57 (SD 115) for our sample (n=260). Bearing in mind that the PRiSM sample all had a diagnosis of psychosis, they may be more comparable to the sub-sample of people with more severe mental health problems in our study (n=230). In our study, these people in fact also had mean costs of £63 per week (SD 125). This shows a striking similarity between the costs of standard community mental health services for people with severe mental health problems. It will be interesting to monitor the differences in mean costs brought about by the widespread introduction in the UK of a more intensive service model known assertive outreach, since the intensive arm of the PRiSM study reported costs for psychiatric services that were 66% higher than standard at Time 1 and 56% higher at Time 2.

Discussion

In this study, differences in costs were found strongly to reflect case mix. Targeted services had consistently higher costs. People in targeted services had higher mean costs for community mental health care, and for health and social services taken together (£136, SD £191 versus £92, SD £106; p=0.001). Living in an area where mental health services were targeted at people with more severe mental health problems increased total costs by almost 50%.

There remain questions about how far costs were influenced by supply-side factors. These might include, for instance, the availability of day occupations, hospital beds, or the accessibility of primary case services in more rural areas, like Northumberland. One methodological implication is that supply-side variations should ideally be taken into account in any comparisons of service costs. Much larger data sets would be required properly to control for supply-side factors.

The associations demonstrated here between severity and costs are not surprising. Severity of mental illness has been shown to be associated with costs by Knapp *et al.* (1994),[21] Brooker *et al.* (1997),[22] Chisholm *et al.* (1997)[23] and others. Indeed, if no correlation between severity and costs were found, services might be criticised as being misdirected. Of course, there may other variables driving this association, notably deprivation (Glover *et al.*, 1999).[24]

We found that integrated services were not more costly than discrete services, as predicted. However, this sample was small, with relatively weak statistical power to detect costs

differences. One integrated district, Northumberland, differed on individual services, but taking health and social care costs together, integrated districts tended to be less costly than discrete districts. This was also true for primary care costs and inpatient costs. With the sample size reported here, therefore, there was no evidence of higher costs for services where health and social care were more closely integrated, and there are indications that the opposite may be true. There is, however, evidence that targeting increases costs, presumably by raising the average severity level among service users. This finding is important because targeting and integration are becoming widely adopted as aims of mental health policy. The two policies appear on this analysis to have contrary effects on costs. Of course, this finding does not enable us to predict their impacts on service user outcomes.

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