original papers

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Two weeks in the life of a community mental health team: a survey of case-mix and clinical activity in the north-west of Sheffield

AIMS AND METHOD
The aim of the study was to determine whether diagnostic case-mix influenced the distribution of clinical activity within the community mental health team (CMHT). Information concerning every patient involved with the CMHT and every episode of clinical activity was collected over a 2-week period.

RESULTS
Data were obtained concerning 417 patients and 1744 corresponding episodes of clinical activity. Diagnostic case-mix significantly differed between the professions. The duration of episodes of clinical activity varied significantly according to the type of patients involved and whether or not direct face to face contact occurred.

CLINICAL IMPLICATIONS
Diagnostic case-mix, in addition to absolute numbers, should be considered when estimating the actual work generated by the different professions' case-loads. Patients with psychosis may place an increased time burden upon CMHT members.

The National Service Framework (NSF) for Mental Health (Department of Health, 1999) prescribes the manner in which mental health services will prioritise and allocate resources. The document is broad in scope, and a key theme is that specialist mental health services will prioritise those people with severe mental illnesses (SMI). Community mental health teams (CMHTs) are key providers of services to people with mental disorders. An effective response to the NSF's standards may be facilitated by an understanding of those factors, within CMHTs and patients, that influence the clinical focus of teams and their workload.

There is an emerging literature describing the case-mix and case-loads of different professions within CMHTs (for example, Greenwood *et al*, 2000). Less is known about the actual work generated by the mix of clients on case-loads. The aim of this study was to determine whether diagnostic case-mix influenced the distribution of clinical activity within the CMHT in the north-west sector of Sheffield.

Sheffield is a socio-economically deprived city (Jarman index=13.8; Jarman, 1983) with a population of 600 000. The north-west sector of Sheffield includes inner-city areas that are even more deprived than this (Jarman index=40.8), but also some rural communities that are not deprived. Within the north-west sector, people from ethnic minorities constitute between 0.8% and 22.9% of the population, depending upon electoral ward (Sheffield Health Information and Research Department, 1998).

Mental health services are arranged into four geographic sectors. Each sector is served by a community mental health team, day services and a psychiatric in-patient ward with approximately 33 beds each. City-wide services also exist and, at the time of the survey, included specialist psychotherapy, eating disorders, substance misuse, forensic psychiatry and rehabilitation.

At the time of the survey, the north-west sector CMHT comprised 29.4 whole time equivalent (WTE) members of staff. The professional composition of the study participants (given as WTE) was 1.8 consultant psychiatrists, 0.5 specialist registrars, 1.0 senior house officers, 9.0 community psychiatric nurses (CPNs), 1.5 clinical psychologists, 0.6 occupational therapists, 1.0 community mental health workers (CPN assistants), 1.8 social workers (there are 8 individual social workers in the team but 2, with a WTE of 1.8, participated in the survey) and 1.0 art therapists. Additional staff working within the day services were 2.4 staff nurses, 1.6 occupational therapists and 1.0 occupational therapy assistants. The social workers had Mental Health Act 1983 approved social worker duties in addition to their sector workload. Non-consultant medical staff WTE was determined according to the proportion of time spent working in the community and did not include ward duties or academic sessions.

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From April 1997 to March 1998 the team received a mean of 29.6 referrals per week. There were 5.87 weekly admissions, on average, under the care of the sector consultants during that period.

Method

The survey was conducted between Monday 23 June 1997 and Friday 4 July 1997. All community work was included in the survey, that is, all home visits by various members of the team, out-patient appointments and day service attendances. Any time spent on face to face interviews and on clinical discussions or clinical administration about individual patients was included. Travelling time to and from patients' homes was also measured. In-patient work was excluded unless it involved a member of the CMHT visiting a patient on the ward.

For every patient-centred episode of activity, the following were recorded: staff involved, duration of episode, nature of episode (face to face contacts with patient or non face to face activity), patient's socio-demographic details and diagnostic/assessment category. Where diagnosis was uncertain this was clarified by discussion and case note review. Diagnoses were then condensed to give three overall categories: conditions with psychoses (subsuming schizophrenia, schizophrenia-like psychoses, bipolar disorder/affective psychoses and other psychoses), conditions without psychoses (subsuming affective disorders without psychoses, anxiety and other neuroses, alcohol and substance misuse, eating disorders, psychosocial stress and other mental disorders without psychoses) and probable personality disorders.

Results

The CMHT was involved with 546 individual patients over the 2 weeks. This generated 2041 episodes of activity or the equivalent of 8.8 episodes per participating member of staff per working day. Completed assessment forms were available on 417 (76%) of the above 546 individual patients. This allowed analysis of 1744 (85%) of the above 2041 episodes of activity.

Case-mix

Overall, it was found that 41% of patients were assessed as falling within the psychosis category, compared to 46% within the non-psychosis category and 13% in the probable personality disorder category.

Table 1 shows the types of patients that different professions were involved with, and the resultant number of episodes of clinical activity per patient. Activity of the day services is given as a distinct group rather than according to the core professions of day services staff members. The total number of patients in Table 1 (561) is greater than the total number of individual patients in the survey (417) because some patients were involved with more than one professional group and are therefore counted more than once within the table.

Exploratory statistical analysis shows that the differences in case-mix between the professions, shown in Table 1, are significant (χ^2 51.17, d.f.=10, $P<0.001$). Examining each profession individually shows that the most significant factor in the overall difference is the psychology case-mix. This is because of the psychologists' increased involvement with patients in the probable personality disorder category and lesser involvement with patients in the psychosis category, compared to the other professions (χ^2=30.76, d.f.=2, $P<0.001$).

Episodes of clinical activity

Table 2 shows the number and mean duration of all discrete episodes of clinical activity, regardless of whether face to face contact occurred or not, according to client group. Episodes involving patients with psychoses were longer than those involving other patients.

Forty-six per cent of all episodes of clinical activity involved direct face to face contact with patients – these episodes were longer than non face to face episodes of activity regardless of patient group. For example, for patients with psychoses mean face to face duration was 1 h 29 min (95% CI=1 h 20 min–1 h 37 min), while mean non face to face duration was 26 min (95% CI=21–31 min).

Discussion

Our data suggest that the clinical emphasis towards psychosis differs significantly between the professions, and that episodes of clinical activity involving patients with psychoses are significantly longer than those involving other patients. The interpretation of these findings, in the light of the NSF, needs, however, to be subject to certain qualifications, which are outlined below.

First, while we took reasonable measures to ensure the accuracy of diagnoses, no externally validated diagnostic instrument was used. The possibility of the introduction of bias in assigning diagnoses exists, although our 2-week case-load prevalence rates for conditions with and without psychoses are similar to the findings of Greenwood *et al* (2000) in their survey of six London CMHTs.

Second, there is face validity to the interpretation that the association between psychosis and increased duration of clinical activity arises because of the more complex needs of this patient group, but this cannot be shown by our descriptive method alone. Comparative or interventional research would facilitate a better understanding of the relative contribution of staff and patient factors in determining CMHT workload.

Third, our description of the nature of episodes of clinical activity is limited to whether or not face to face contact with patients occurred. Data describing episodes in more clinical detail, such as 'crisis referral' or 'new patient', would further add to our knowledge of how CMHTs function.

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Table 1. Case-mix and resultant clinical activity, over the 2 weeks, shown according to profession (per whole time equivalent (WTE))

	Psychosis		Non-psychosis		Probable personality disorder		
	Patients	Mean episodes per patient	Patients	Mean episodes per patient	Patients	Mean episodes per patient	Total
3.3 doctors	37 (35%) 11.2	1.92	56 (52%) 17.0	1.66	14 (13%) 4.2	1.36	107
9.0 CPNs	118 (48%) 13.1	2.69	101 (41%) 11.2	2.07	25 (10%) 2.8	2.60	244
1.8 SWs	17 (65%) 9.4	4.00	4 (15%) 2.2	3.50	5 (19%) 2.8	5.20	26
1.5 CPs	3 (8%) 2.0	1.67	22 (56%) 14.7	3.18	14 (36%) 9.3	2.71	39
5.0 day services	34 (32%) 6.8	7.74	61 (58%) 12.2	5.75	11 (10%) 2.2	5.09	106
2.6 other	13 (33%) 5.0	2.46	19 (49%) 7.3	1.26	7 (18%) 2.7	3.29	39

Number of individual patients is shown with the equivalent percentage of the total for that profession in parentheses. Number of individual patients per WTE is shown after the percentage in parentheses. CPNs, community psychiatric nurses; SWs, social workers; CPs, clinical psychologists.

Table 2. Number and mean duration (with 95% CIs) of all discrete episodes of clinical activity, over the 2 weeks, according to patient group

	Psychosis	Non-psychosis	Probable personality disorder	Total
Number of episodes	756 (43%)	761 (44%)	227 (13%)	1744 (100%)
Mean duration	59 min	44 min	45 min	
95% CI	55 min–1 hr 3 min	40–49 min	39–51 min	

Data are presented for all episodes regardless of whether or not face to face contact occurred.

Most importantly, the NSF prescribes a focus on SMI by specialist services, not a focus on psychosis. Our classification of 'conditions with psychoses' was intended to identify the patients with SMI using a pragmatic, symptom-based approach. This approach was accepted by all members of our CMHT, including those not employing a medical model of diagnosis. The concept of SMI has become more sophisticated, and the dimensional model of diagnosis, disability and service usage has recently been validated (Ruggeri *et al*, 2000). The potential impact of the NSF on team workload could be better addressed by future studies if multi-dimensional scales were used to identify those with SMI.

These results have generated a lively debate within the team. It is generally felt that a comprehensive response to the NSF requires not only the adequate provision of staff resources (in terms of absolute numbers), but may also need a degree of qualitative change. At a corporate level, our NHS trust is currently engaged in a 'refocusing' exercise that may lead to the creation of specialist 'continuing needs' teams for those with SMI. On an individual basis, team members are more comfortable when dealing with groups of patients with whom they have some experience and expertise. They believe that training in dealing with those patients currently outside of one's clinical practice represents a way forward.

The data we gathered relate to a 2-week period, and therefore show a 'snapshot' of a CMHT at work. This snapshot may provide some insights into the potential impact of responding to the NSF and we hope that other teams will be interested to compare themselves with us. Continued research into the functioning of CMHTs is required in order to inform important evidence-based decisions during this time of change.

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