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The Camberwell Assessment of Need: comparison of assessments by staff and patients in an inner-city and a semi-rural community area

AIMS AND METHOD

The aim of the study was to examine the association between the assessment of need by staff and by severely mentally ill patients using the Camberwell Assessment of Need in a semi-rural setting (Maidstone, $n=50$) and an inner-city area (Camberwell, $n=127$). Staff and patients were interviewed separately. We specifically examined differences in the total number of needs between

Camberwell and Maidstone, differences in the number of unmet needs and differences in the level of agreement between staff and service users.

RESULTS

Patients in Maidstone had fewer needs than those in Camberwell according to both staff (4.9 v. 5.8) and patients (4.2 v. 6.3), fewer unmet needs rated (staff, 1.1 v. 1.5; patients, 1.0 v. 1.9) and a greater

level of concordance between staff and patients.

CLINICAL IMPLICATIONS

The needs of severely mentally ill patients were greater in the inner-city area compared with the semi-rural one. The fact that agreement between staff and service users was less in the inner-city area also suggests that more stable staff–patient relationships existed in the rural area.

The concept of need has been discussed and investigated widely and should be central to health service planning. Stevens & Gabbay (1991) proposed that a working definition of a need is 'the ability to benefit in some way from healthcare'. The importance of including the perceptions of service users in mental health care has long been recognised. For example, in the early 1990s UK government guidance stated that 'all users should be encouraged to participate to the limit of their capacity. . . . Where it is impossible to reconcile different perceptions, these differences should be acknowledged and recorded' (Department of Health & Social Services Inspectorate, 1991: pp. 51–52). Such a view is also held by those representing service users. For example, the mental health organisation has advocated community care policy that is based on the 'actual wishes and needs of people who use the service' (Sayce, 1990, p. 7), thus recognising that staff and patients may differ.

Needs have to be negotiated between service users (people who receive interventions) and formal carers (staff who assess and intervene to meet those needs). Instruments that measure needs should take views from both parties into account in order to be considered as objective and comprehensive. The Camberwell Assessment of Need (CAN; Phelan *et al*, 1995) is the only comprehensive instrument that takes account of both users and staff on the same measure.

Slade *et al* (1996) interviewed 49 staff–patient pairs in an inner-city community psychiatry setting using the CAN, and reported that although the numbers of needs rated by staff and patients were similar the needs were not in the same domains. There was better agreement between staff and patients on needs that had triggered a specific service intervention. Agreement between staff and patient ratings of help received, help given and service satisfaction was low.

Inner cities with their background of poor housing, high unemployment and other social problems impose a challenge for local psychiatric services. Health and social needs are likely to be great, as will be the demand for services, including psychiatric beds (Shepherd *et al*, 1997). Little is known about the needs that occur in other areas (rural, semi-rural and suburban). This study compares the needs arising in an inner-city area (Camberwell) with those in a semi-rural setting (Maidstone) and identifies differences between staff and service user perceptions in the two areas.

Method

Camberwell patients were included in the PRISM Psychosis Study (Thorncroft *et al*, 1998) and were drawn from what was then the Camberwell Health Authority (consisting of parts of the London boroughs of Southwark and Lambeth), which had a 1991 census population of around 240 000 persons. The area scores high on indicators of deprivation (Jarman, 1983; Glover *et al*, 1998) and is culturally diverse. The mean Jarman score was 25.0 (Jarman, 1983) and the prevalence of psychoses was around 7 per 1000 persons (Johnson *et al*, 1998). In 1992 the area was divided into seven geographically defined catchment areas served by community mental health teams of the (then) Bethlem and Maudsley National Health Service Trust (more recently the configuration of the trust has changed substantially). Patients were drawn from two of the catchment areas (Nunhead and Norwood) for the PRISM study. The areas were well matched on a variety of socio-economic characteristics. For the purposes of this study both catchment areas are treated as one. Both areas provided in-patient beds, out-patient services and day care.

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Maidstone Priority Care served a population of around 200 000 in a semi-rural area. This area scores low on indicators of deprivation and has a predominantly White UK population. The mean Jarman score for the area was -10.99 . We do not have the exact figure of the prevalence of psychosis in this area. It is a community-oriented service which at the time of the study consisted of a purpose-built admission unit with 32 beds, two community mental health centres with 36 staff, a day centre and group activities. The study recruited patients from one of these community mental health centres, who were randomly chosen from a case identification study of severe mental illness. Most contact with patients by community psychiatric nurses took place in the patients' own homes or other facilities in the community.

The Camberwell Assessment of Need consists of 22 items all coded in the same way. First, the person interviewed states whether a particular need is present, and if present whether it is met (resulting in a score of 1) or unmet (score of 2). If there is no need (score of 0), the interviewer proceeds to the next item. If there is a need, the respondent is asked for information on the levels of help received from family and friends, help received from formal services and help needed from formal services (help levels are each rated as 0, no help; 1, low level of help; 2, medium level of help; 3, high level of help). For the purposes of this study only information about whether a need existed and whether it was met or unmet was used. A full description of the CAN is provided by Phelan *et al* (1995).

Initially, individuals with severe mental illness, living in Maidstone or Camberwell during a defined index year, were identified from hospital notes and other records such as those held by general practitioners. Severe mental illness was defined as a clinical diagnosis of schizophrenia, bipolar disorder or other psychosis. Background information from case notes was extracted and compared between the two areas. In addition, a Global Assessment of Functioning (GAF; American Psychiatric Association, 1987) rating was made by the researcher based on the case note information. A random sample of those identified was selected for interview. In Camberwell, interviews occurred twice: first, while services were predominantly hospital-based, and subsequently after community mental health teams had been established. Information from the second interview was used here because it was temporally comparable with the information collected from interviews in Maidstone, which occurred only once. Separate interviews were carried out with patients and staff.

The total number of needs, and the number of needs that were met or unmet, identified by staff and patients were calculated and compared between the settings. The mean number of needs in Camberwell and Maidstone were compared using *t* tests. Because the distribution of needs was unlikely to be normal we used the bootstrapping method to generate more accurate *P* values (Mooney & Duval, 1993). Differences between ratings in Camberwell and Maidstone for individual areas of need were tested for statistical significance using chi-squared tests. Kappa coefficients were produced to

indicate the strength of agreement between staff and patients regarding the existence of a need (met and unmet combined). Significance was defined at the $P < 0.1$ level.

Results

In Maidstone, 140 individuals were identified as having severe mental illness and 50 of them were randomly selected and interviewed with the CAN, along with relevant members of staff. Five patients from the original sample refused to participate and were replaced by the next patients on the list. The number of patients identified in Camberwell was 535 and 127 patient–staff pairs were interviewed at the second time point with the CAN.

The characteristics of the Maidstone and Camberwell patient samples are shown in Table 1. It can be seen that both samples were similar in terms of gender, age, previous admissions and length of contact with services. As would be expected of an inner-city district, Camberwell had proportionally more people from Black and minority ethnic backgrounds and more people living alone. It is interesting that in both areas around a third of patients had been in contact with services for more than 21 years. Disability as measured by the GAF was higher in Camberwell, a difference that was significant at the $P < 0.1$ level.

The average numbers of needs (total, met and unmet) rated by staff and patients in both areas are shown in Table 1. Staff ratings of need did not differ substantially between the two areas, although ratings were consistently higher for the Camberwell site. However, there were large differences in user ratings, again with more needs reported in Camberwell. Table 2 reveals that staff in Camberwell were significantly more likely to report met physical and transport needs than staff in Maidstone. Other differences between the two areas were not statistically significant. There were more differences reported with regard to patient ratings of individual needs (Table 3). A significantly higher proportion of Camberwell patients reported that their needs for food, company, basic education, transport and benefits had been met, compared with their counterparts in Maidstone. Similarly, unmet intimate relationship and benefit needs were more commonly reported in Camberwell.

Agreement between patients and staff was greatest with regard to drugs. Disagreement was most likely for information about condition and treatment. For 18 of the 22 CAN items there was more agreement between patients and staff, in Maidstone than in Camberwell. The average κ score in Maidstone was 0.56, whereas in Camberwell it was 0.43.

Discussion

We found that the number of needs (total, met and unmet) is higher in Camberwell, a deprived inner-city area, than in Maidstone, a semi-rural area. This was not unexpected given the diverse socio-demographic

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papers**Table 1. Characteristics of patients in the Maidstone and Camberwell samples**

| | Maidstone (n=50) | Camberwell (n=127) | P |
|--|------------------|--------------------|---------------------|
| Age, years: mean (s.d.) | 45.1 (11.0) | 42.1 (14.4) | 0.138 ¹ |
| Gender, n (%) | | | 0.847 ² |
| Male | 26 (52) | 64 (50) | |
| Female | 24 (48) | 64 (50) | |
| Ethnicity, n (%) | | | <0.001 ² |
| White | 50 (100) | 73 (58) | |
| Black Caribbean | 0 (0) | 42 (33) | |
| Black African | 0 (0) | 7 (6) | |
| Other | 0 (0) | 4 (3) | |
| Living situation, n (%) | | | <0.001 ² |
| Alone | 9 (19) | 55 (45) | |
| With partner | 20 (43) | 23 (19) | |
| With other relatives | 13 (28) | 19 (15) | |
| With others | 4 (9) | 26 (21) | |
| Contact with services, years: n (%) | | | 0.80 ² |
| 0–5 | 6 (13) | 16 (13) | |
| 6–10 | 6 (13) | 25 (20) | |
| 11–15 | 7 (16) | 22 (18) | |
| 16–20 | 7 (16) | 14 (11) | |
| 21+ | 19 (42) | 46 (37) | |
| Number of previous psychiatric admissions: mean (s.d.) | 5.2 (5.5) | 5.5 (7.9) | 0.80 ¹ |
| Clinical diagnosis, n (%) | | | 0.95 ² |
| Schizophrenia | 35 (70) | 92 (72) | |
| Bipolar disorder | 11 (22) | 26 (21) | |
| Other psychosis | 4 (8) | 9 (7) | |
| GAF score: mean (s.d.) | 57.8 (13.7) | 52.7 (16.9) | 0.06 ¹ |
| Number of needs: mean (s.d.) | | | (n=126) |
| Staff ratings | | | |
| Total | 4.9 (3.0) | 5.8 (3.3) | 0.099 ³ |
| Met | 3.8 (2.1) | 4.3 (2.8) | 0.177 ³ |
| Unmet | 1.1 (1.8) | 1.5 (2.0) | 0.205 ³ |
| Patient ratings | | | |
| Total | 4.2 (2.3) | 6.3 (3.1) | <0.001 ³ |
| Met | 3.2 (1.9) | 4.4 (2.3) | <0.001 ³ |
| Unmet | 1.0 (1.5) | 1.9 (1.9) | 0.001 ³ |

GAF, Global Assessment of Functioning.

1. Value produced using t test.

2. Value produced using χ^2 test.

3. Bootstrapped t test derived using regression analysis.

characteristics of the two areas. In addition, the average level of disability (rated using the GAF) was less in Maidstone than in Camberwell, and this would lead to different levels of need.

The two areas differed most in their patient ratings of physical health and transport needs, with met needs being higher in Camberwell. Physical health problems, like mental health problems, are more prevalent in areas with high levels of social deprivation. Met transport needs, as rated by the CAN, are more likely in urban areas because the instrument considers the provision of a bus pass to be a possible met need. It is assumed that bus passes are used more in areas with more widespread public transport systems. It should be recognised, however, that if the respondent says that no help is required, then even with a free bus pass the rating should be 0, although it

might be the case that the provision of this service might generate a met need.

Proportionally more patients in Camberwell than in Maidstone were rated by staff as having met needs for food, company, education, transport and benefits, and unmet needs for intimate relationships and benefits. The argument presented above for the possible difference in transport needs again applies. The differences for the other met needs may also reflect the fact that services are more comprehensive in Camberwell – again, the implication being that the provision of a service leads to a met need. Intimate relationships were more often an unmet need in Camberwell than in Maidstone. It is unclear why this was so, but the lack of a difference in met intimate relationship needs suggests that this is an area that is hard to address.



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Table 2. Staff ratings of patients' met and unmet needs

| Need | Patients with met and unmet needs, n (%) | | | | p ¹ |
|------------------------|--|--------|--------------------|---------|----------------|
| | Maidstone (n=50) | | Camberwell (n=127) | | |
| | Met | Unmet | Met | Unmet | |
| Accommodation | 10 (20) | 1 (2) | 34 (27) | 8 (6) | 0.27 |
| Food | 11 (22) | 1 (2) | 33 (26) | 5 (4) | 0.64 |
| Looking after the home | 17 (35) | 2 (4) | 30 (25) | 7 (6) | 0.37 |
| Self-care | 7 (14) | 2 (4) | 22 (17) | 4 (3) | 0.86 |
| Daytime activities | 23 (46) | 5 (10) | 49 (40) | 17 (14) | 0.67 |
| Physical health | 7 (14) | 1 (2) | 38 (30) | 9 (7) | 0.02 |
| Psychotic symptoms | 42 (84) | 5 (10) | 96 (76) | 14 (11) | 0.41 |
| Information | 1 (2) | 0 (0) | 6 (5) | 4 (3) | 0.28 |
| Psychological distress | 14 (28) | 5 (10) | 42 (33) | 11 (9) | 0.80 |
| Safety to self | 6 (12) | 2 (4) | 5 (4) | 4 (3) | 0.13 |
| Safety to others | 3 (6) | 0 (0) | 6 (5) | 4 (3) | 0.43 |
| Alcohol | 2 (4) | 1 (2) | 4 (3) | 4 (3) | 0.89 |
| Drugs | 2 (4) | 1 (2) | 3 (3) | 3 (3) | 0.84 |
| Company | 14 (28) | 7 (14) | 39 (31) | 26 (21) | 0.43 |
| Intimate relationships | 8 (17) | 6 (13) | 11 (11) | 20 (19) | 0.40 |
| Sexual expression | 4 (9) | 2 (5) | 2 (2) | 8 (8) | 0.13 |
| Child care | 2 (4) | 1 (2) | 4 (3) | 5 (4) | 0.78 |
| Basic education | 2 (4) | 0 (0) | 16 (13) | 2 (2) | 0.13 |
| Telephone | 0 (0) | 3 (6) | 3 (3) | 2 (2) | 0.17 |
| Transport | 6 (12) | 5 (10) | 58 (50) | 10 (9) | <0.001 |
| Money | 10 (20) | 2 (4) | 23 (19) | 10 (8) | 0.61 |
| Welfare benefits | 1 (2) | 1 (2) | 16 (15) | 5 (5) | 0.04 |

1. Chi-squared test.

Table 3. Patient ratings of met and unmet needs

| Need | Patients with met and unmet needs, n (%) | | | | p ¹ |
|------------------------|--|--------|--------------------|---------|----------------|
| | Maidstone (n=50) | | Camberwell (n=127) | | |
| | Met | Unmet | Met | Unmet | |
| Accommodation | 11 (22) | 2 (4) | 35 (28) | 12 (9) | 0.30 |
| Food | 8 (16) | 0 (0) | 44 (35) | 8 (6) | 0.005 |
| Looking after the home | 16 (32) | 0 (0) | 32 (25) | 5 (4) | 0.27 |
| Self-care | 5 (10) | 1 (2) | 14 (11) | 2 (2) | 0.96 |
| Daytime activities | 16 (33) | 4 (8) | 36 (29) | 15 (12) | 0.72 |
| Physical health | 10 (20) | 3 (6) | 45 (36) | 8 (6) | 0.12 |
| Psychotic symptoms | 40 (80) | 2 (4) | 98 (78) | 10 (8) | 0.64 |
| Information | 9 (19) | 5 (10) | 24 (20) | 14 (12) | 0.97 |
| Psychological distress | 11 (22) | 3 (6) | 32 (25) | 19 (15) | 0.18 |
| Safety to self | 4 (8) | 1 (2) | 9 (7) | 4 (3) | 0.90 |
| Safety to others | 3 (6) | 0 (0) | 2 (2) | 4 (3) | 0.13 |
| Alcohol | 1 (2) | 0 (0) | 5 (4) | 2 (2) | 0.54 |
| Drugs | 3 (6) | 0 (0) | 4 (3) | 3 (2) | 0.39 |
| Company | 2 (4) | 9 (18) | 25 (20) | 29 (23) | 0.01 |
| Intimate relationships | 3 (6) | 5 (10) | 2 (2) | 25 (21) | 0.09 |
| Sexual expression | 1 (2) | 2 (4) | 3 (3) | 12 (11) | 0.31 |
| Child care | 5 (10) | 0 (0) | 6 (5) | 6 (5) | 0.13 |
| Basic education | 1 (2) | 0 (0) | 16 (13) | 6 (5) | 0.02 |
| Telephone | 1 (2) | 1 (2) | 7 (6) | 0 (0) | 0.17 |
| Transport | 6 (12) | 4 (8) | 81 (64) | 14 (11) | <0.001 |
| Money | 5 (10) | 1 (2) | 23 (18) | 9 (7) | 0.14 |
| Welfare benefits | 0 (0) | 5 (11) | 10 (8) | 33 (28) | 0.003 |

1. Chi-squared test.

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There was a reasonable level of agreement between staff and patients for many of the domains. Agreement on drugs was strongest, which may reflect the low proportion of patients for whom this was considered a problem. There was also good agreement for relatively 'tangible' items such as child care, accommodation and physical health. However, for information, company, sexual expression, telephone and transport there was less agreement. With the exception of information, these are perhaps areas that staff might not consider to be their responsibility. The substantial lack of agreement about information needs (in both areas) is of concern.

An interesting finding is the higher level of concordance between staff and patients in Maidstone. This may reflect better communication and close working between patients and staff in Maidstone; however, some of the difference might be due to the fact that in Maidstone one interviewer was used, whereas in Camberwell there was a team of interviewers. Although the CAN has a good level of interrater reliability (Phelan *et al*, 1995; McCrone *et al*, 2000) there may remain some interviewer bias. In the original CAN reliability study (Phelan *et al*, 1995), interrater reliability for information needs rated by staff produced a κ of 0.83, whereas for patient ratings $\kappa=0.73$. These scores are low compared with those for other CAN items and therefore in this study we may be partially detecting an interviewer effect. However, interrater reliability scores for drugs – the item with most agreement here – in the original study were not high in comparison with other domains, and yet we do have good concordance for that item in this study.

The PRISM Psychosis Study involved interviewing patients at two time points approximately 2.5 years apart. Data from the second interview were used in our study, and some of the originally identified patients were not interviewed. However, analyses have shown that the sample at follow-up was largely representative of the initially identified patients (McCrone, 2000).

Declaration of interest

None.

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