

Psychopathology and Quality of Life Among Mentally Ill Patients in the Community British and US Samples Compared

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Sixty-nine mentally ill patients in treatment in an intensive community support system in Boulder, Colorado, were evaluated using the same measures of quality of life and psychopathology as were used in assessing mentally ill patients in hospital and community facilities in Manchester. Psychopathology was greater in the Boulder samples, but quality-of-life scores were no worse for the American patients. The relationship of these findings to systems of care and availability of psychiatric hospital beds is discussed.

A number of key features distinguish the British and US systems of mental health care. The National Health Service (NHS) provides free care to all citizens through a single funding system. In the USA, the care of the mentally ill may be provided by a variety of practitioners, agencies, and hospitals. The agencies and hospitals may be government-owned, private non-profit, or private for profit. The treatment may be funded by combined federal and state health insurance programmes (Medicaid and Medicare), private health insurance, or direct state, county or city funds – all with their own complex reimbursement policies and procedures.

Mental hospitals in Britain have been phasing out and closing over a long period of time, but the extent of deinstitutionalisation in Britain has not been as radical as in the USA. By 1985, the daily psychiatric in-patient census in England and Wales (13 per 10 000) (Thorncroft & Bebbington, 1989) was substantially greater than in the USA (public and private hospitals combined, 8 per 10 000; public hospitals alone, 6 per 10 000) (Witkin *et al*, 1987). The numbers of mentally ill people among the homeless and prison populations in Britain may be growing and is attracting some attention (Thorncroft & Bebbington, 1989), but these problems do not appear to have reached the same dimensions as in the USA.

British mental health services are still relatively hospital-based, and community services for the mentally ill are, by and large, not comprehensively developed. A number of community mental health centres have been established, but there is a lack of consistency as to what services they will offer to which populations. Family doctors play a central role in the community care of psychiatric disorders. The provision of special-needs housing for the mentally ill is primarily a responsibility of the local authority

housing departments in conjunction with departments of social services.

As interest grows in Britain around such clinical and administrative features of the American system as case management, reduced hospital use, health service components becoming self-governing entities, and agencies contracting with government for the provision of specific services, there is an increased value in direct comparison of outcome between the treatment of the mentally ill in the UK and in the USA.

Although joint meetings have been held to examine similarities and differences in mental health care delivery in the two countries (Marks & Scott, 1990), no recent direct comparisons exist. We describe a study of the quality of life (QOL) and psychopathology of mentally ill patients in a community support system in Boulder, Colorado (Mosher & Burti, 1989), using the same measures that were used in the evaluation of hospital and community samples in Manchester (Simpson *et al*, 1989).

Method

A random sample of 81 patients with functional psychosis in treatment with a community support system, in Boulder, Colorado (about 20% of the total group of such patients) was selected for assessment using the same instruments which were used to measure QOL and psychopathology in a British sample (Simpson *et al*, 1989). The Boulder sample was drawn from an entire county population of non-hospitalised psychotic patients ranging from the high-functioning to the most severely disturbed. Twelve of the subjects were unobtainable for assessment or refused to participate in the study. Subjects were in treatment in intensive residential care ($n = 13$), intensive out-patient treatment ($n = 16$), or standard out-patient care ($n = 40$).

Subjects in intensive residential care were in one of two facilities, an acute treatment unit with 15 beds or a long-term facility with five beds, each with 24-hour staffing, and active treatment and rehabilitation programmes. Those in intensive out-patient care were assigned to a team on which caseloads are small (12–15 patients per therapist), and which provides daily contact and outreach, monitoring of medication, money management, case management and, for many clients, supervised or managed housing. Several patients on this team are in involuntary out-patient treatment. About 20% of the mental health centre's (Boulder, Colorado) psychotic patients are assigned to intensive out-patient care, the remaining out-patients receive standard treatment. Patients are selected for the different modalities of care based on their degree of disability and likelihood of relapse.

Subjects were diagnosed by independent psychiatrists using DSM-III-R criteria (American Psychiatric Association, 1987) and evaluated using the following instruments.

The QOL Profile, developed by Oliver (1988) in Britain, is a structured interview based on the work of Lehman (1983), which retains all nine of the domains from Lehman's instrument and the seven-point scale scoring system. It differs from Lehman's interview in the inclusion of an assessment of positive and negative affect and self-esteem (Rosenberg, 1965), Cantrill's ladder, and a QOL uniscale for the rater to complete. The interview takes 25 minutes to complete, and was conducted, in this study, by independent, trained interviewers.

The Krawiecka, Goldberg and Vaughn (KGV) Scale (Krawiecka *et al.*, 1977) was used to assess positive, negative, and affective symptoms. The scale was developed in Manchester as a brief method for reliably assessing chronic psychotic patients. The treating psychiatrist for each subject in the sample rated the patient's psychopathology at baseline for the previous month, using an anchored version of the scale. Each of the five treating psychiatrists completed the ratings on his/her patients after instruction in the use of the scale by a British psychiatrist (RW). No tests of inter-rater reliability were conducted.

The results obtained from the evaluation of the Boulder sample were compared with those of Simpson *et al.* (1989), who used the Lehman QOL interview and KGV Scale to assess a hospital and community sample of chronically mentally ill patients in South Manchester. The Manchester sample consisted of 11 long-stay (over six months) patients on the acute ward of a district general hospital, 10 residents of a hostel ward, and 13 residents of group homes.

Results

Thirty-seven (53.6%) of the Boulder sample were male; the gender distribution of the Manchester sample is not given. The mean age of the Boulder subjects was 41 years (range 22–69 years). The mean age of the Manchester patients was: hospital patients, 45 years (s.d. 14); hostel ward residents, 42 years (s.d. 15); and group home residents, 40 years (s.d. 12). The distribution of diagnoses in the Boulder sample was schizophrenia, 51%; bipolar disorder, 20%; schizoaffective disorder, 16%; and other psychosis, 13%. In the Manchester sample the diagnoses were schizophrenia, 41%; affective disorder, 38%; other psychosis, 18%; and obsessive-compulsive disorder, 3%.

Positive, negative, and affective symptom scores for both samples are compared in Table 1 and the subjective QOL scores in all domains are listed in Table 2. One-way analysis of variance using the Scheffé multiple comparison procedure ($\alpha=0.05$) was applied to test for homogeneity of groups for each of the three components of psychopathology. Psychopathology scores for positive and affective symptoms are not homogeneous across groups. Positive symptoms are greater in the Boulder intensive residential care and intensive out-patient care samples, compared with the Manchester group homes sample. Affective symptoms are greater in the Boulder standard out-patient care sample, compared with the Manchester hospital sample. Negative symptoms are homogeneous across groups.

One-way analysis of variance using the Scheffé multiple comparison procedure ($\alpha=0.05$) was applied to test for homogeneity of groups for each domain of QOL (except work/education and family relations, for which data were incomplete in the Boulder sample). The settings are not homogeneous on three of the seven QOL domains tested. The following differences are significant at the $\alpha=0.05$ level: patients in the Manchester hospital group scored lower on the safety subscale than patients in intensive residential care or standard out-patient care from the Boulder sample, lower on the social relations subscale than subjects in standard out-patient care from the Boulder sample, and lower on the living situation subscale than Manchester subjects in group homes. Boulder subjects in intensive residential care also scored lower on the living situation subscale than residents of group homes in Manchester.

Table 1
Psychopathology scores (mean (s.d.)) for Boulder and Manchester samples

	Boulder sample			Manchester sample		
	Intensive residential care ($n=13$)	Intensive out-patient care ($n=16$)	Standard out-patient care ($n=40$)	Hospital ($n=11$)	Hostel ward ($n=10$)	Group homes ($n=13$)
Positive symptoms	6.85 ¹ (2.76)	5.38 ¹ (3.70)	2.67 (2.68)	4.00 (2.37)	3.10 (2.81)	1.77 ¹ (1.42)
Negative symptoms	3.69 (3.73)	4.88 (3.42)	3.40 (3.27)	4.81 (2.68)	2.80 (2.70)	1.77 (1.59)
Affective symptoms	3.08 (2.43)	3.38 (1.82)	3.57 ¹ (1.89)	1.27 ¹ (1.74)	1.80 (1.47)	1.77 (1.79)

1. Setting not homogeneous with others on the Scheffé multiple comparison test ($\alpha=0.05$) for this component of psychopathology.

Table 2
Subjective QOL scores (mean (s.d.)) for Boulder and Manchester samples

	Boulder sample			Manchester sample		
	Intensive residential care (n = 13)	Intensive out-patient care (n = 16)	Standard out-patient care (n = 40)	Hospital (n = 11)	Hostel ward (n = 10)	Group homes (n = 13)
Living situation	3.52 ¹ (0.93)	4.82 (1.63)	4.85 (0.99)	3.74 ¹ (1.40)	4.76 (0.81)	5.31 ¹ (0.48)
Family relations ²	3.33 (0.00)	—	5.00 (1.13)	4.25 (1.67)	4.60 (0.97)	4.68 (1.27)
Social relations	4.21 (1.25)	4.23 (1.12)	4.92 ¹ (1.26)	3.49 ¹ (1.00)	3.96 (1.19)	6.61 (1.04)
Leisure	4.52 (0.79)	5.21 (0.77)	4.87 (1.01)	3.92 (1.15)	4.43 (1.33)	5.01 (0.85)
Work ²	4.75 (0.35)	5.83 (0.52)	4.91 (1.03)	3.21 (1.97)	3.70 (1.60)	3.74 (1.14)
School ²	—	—	—	—	4.83 (0.94)	4.97 (1.78)
Religion	4.78 (0.62)	4.91 (0.80)	4.96 (1.39)	4.16 (1.29)	4.12 (1.03)	5.02 (0.96)
Finances	3.25 (1.39)	4.25 (1.51)	4.27 (1.49)	3.09 (1.65)	3.67 (1.03)	4.65 (0.96)
Safety	5.45 ¹ (0.85)	5.09 (1.34)	5.52 ¹ (1.11)	3.58 ¹ (1.62)	4.82 (1.21)	4.61 (0.90)
Health	4.64 (1.10)	4.60 (1.42)	4.84 (1.01)	3.68 (1.42)	4.35 (1.12)	5.17 (1.10)
Average QOL	4.33	4.78	4.89	3.68	4.32	4.98

1. Setting not homogeneous with others on the Scheffé multiple comparison test ($\alpha = 0.05$) for this QOL domain.
2. Setting not tested for homogeneity on this QOL domain.

Discussion

Cross-national comparisons between treatment settings can rarely be made since research instruments used at different sites are seldom the same. We have attempted to overcome this problem by using the same instruments in evaluating a US sample of community-based patients as were used in a British study. Caution must be used in interpreting the findings of this study, however, because of lack of comparability between the samples. Subjects in Manchester were drawn from selected treatment settings and may not be representative of the general range of psychotic patients in that community. Subjects in Boulder were not matched with Manchester cases, as this would have created an artificial group which would not have been typical of Boulder community-based patients as a whole. The diagnostic approach used in the Manchester study was the CATEGO program: Boulder patients were diagnosed using DSM-III-R.

These differences would prevent any conclusions being drawn about specific illness, site or treatment interactions. The data allow us, however, to make some broad observations about gross differences between populations of mixed psychotic patients in the two areas.

There is little difference in QOL scores between the Boulder and Manchester samples for patients in community settings, but QOL scores are lower in a few domains for long-term patients in the Manchester District General Hospital. Psychopathology, however, appears to be greater in the Boulder groups. Even if we set aside the Boulder patients who are in intensive residential care as being acutely disturbed and therefore not comparable with the

long-stay hospital patients in Manchester, it is apparent that both groups of Boulder out-patients are more severely disturbed (on one dimension of psychopathology or another) than the Manchester out-patient or hospital samples. Explanations for the worse psychopathology in the US sample include: (a) sample selection bias; (b) rater bias; (c) Boulder patients are made worse by differences in environmental and treatment factors; or (d) more severely ill patients are treated in the community in Boulder because of the comparative scarcity of public psychiatric hospital beds in Colorado.

Selection bias

It is possible that the sample of patients selected in Manchester is less disturbed than the total population of available patients in that area, or that the Boulder patients are more disturbed than the broad group of mentally ill in the Boulder community. Patients are selected for intensive out-patient care in Boulder, for example, because of greater pathology and poor treatment compliance. Similarly, patients might be selected for the Manchester group home on the basis of their low level of pathology.

The Boulder subjects were randomly selected from an entire sample of out-patients, however, and both the standard and intensive out-patient care groups show comparatively high levels of pathology. It seems unlikely, moreover, that the long-stay patients on the acute ward of the general hospital in Manchester are lower in pathology than those in the surrounding community, yet these patients do not rate higher than Boulder patients in intensive out-patient care on any dimension of psychopathology and they rate significantly lower than Boulder patients in standard out-patient care on one dimension (affective symptoms). This suggests that

Boulder community-based patients are, in fact, more disturbed than patients in the Manchester community.

Rater bias

The psychiatrists in Boulder may have consistently rated patients as higher in psychopathology than did the Manchester researchers. This explanation is somewhat unlikely in view of the use of a standardised scale with clearly defined anchors, coupled with group training of the Boulder psychiatrists in the use of the KGV scale by a British psychiatrist (RW). Tests of inter-rater reliability were not conducted, but there is no *a priori* reason to expect a consistent group bias towards elevated rankings in Boulder.

Exacerbation of illness

The Manchester out-patient treatment settings are relatively well structured: one is a highly structured hostel ward, and the remaining out-patients are in group homes with non-resident staff visiting weekly. Some of the Boulder patients in intensive out-patient care live in supervised half-way houses or partially supervised group homes, but many more live independently with daily, or less frequent, out-patient staff contact: none of the patients in standard out-patient care in Boulder has supervised accommodation or treatment contact more often than weekly. Although Boulder patients receive intensive case management and outreach services when necessary, this intensity of service is still less structured than in a British hostel ward. It is possible that the psychotic patients in the Boulder out-patient programmes are less well because of the stress of relatively unstructured and unsupervised living circumstances. This explanation, however, fails to account for the low level of psychopathology among Manchester group-home patients, who receive relatively little supervision.

It is conceivable that the Boulder patients are less effectively medicated than those in Manchester. This seems unlikely as each Boulder patient is seen frequently by a psychiatrist and medicated optimally, though not heavily, and most have received trial courses of lithium carbonate, anticonvulsants, and antidepressants, in addition to neuroleptics, where appropriate. Medications are monitored or administered by staff whenever necessary.

Other research (Warner *et al.*, 1993) has shown that over a third of subjects drawn from the Boulder agency's population of psychotic patients use alcohol or drugs moderately or heavily. There are no comparative studies of substance abuse among the

mentally ill in Britain and the USA, but anecdotal reports suggest that this problem may be more common among American patients. If so, this factor might lead to the exacerbation of illness of US patients and account for some of the elevated pathology in the Boulder sample.

Availability of hospital beds

The provisions for public in-patient psychiatric care for adults in Colorado are substantially less than in the UK. The number of non-forensic public psychiatric hospital beds for adults (aged 18–60 years) available to Boulder County residents is less than 7 per 100 000 of the population, used about equally for acute and long-term (over three months) care. At any time, the mental health centre in Boulder is likely to be providing acute in-patient treatment to a further 2 or 3 patients per 100 000 of the population in a private general hospital, covered by government or private health insurance. (Another 26 adult, privately insured patients per 100 000 of the population, on average, are in private-sector in-patient care in Boulder County, but most of these patients are non-psychotic and would be unlikely to be treated in an in-patient setting if they were in public mental health centre care. They include no patients in long-term hospital care.)

In contrast, the number of adult, non-geriatric, acute care beds per 100 000 of the population recommended by the 1975 British Government White Paper is 50, and the number of long-term beds recommended is 17 per 100 000 (Thornicroft & Bebbington, 1989). In 1988, the Royal College of Psychiatrists recommended 44 acute care beds per 100 000 (Hirsch, 1988). Both sets of recommendations would provide several times the number of beds available for public patients in Colorado. The actual number of adult, acute and long-term, psychiatric hospital beds available in South Manchester (excluding geriatric care, alcoholism treatment, and hostel ward beds) at the time of the study by Simpson *et al.* (1989) was 73 per 100 000 (somewhat greater than Department of Health norms, as the area includes a professorial teaching unit). This figure indicates that in Manchester there are approximately 60 more beds per 100 000 for public psychiatry than in Boulder, and nearly double the number of Boulder public and private psychiatric beds combined.

The result of this relative scarcity of in-patient psychiatric beds in Colorado is that severely disturbed patients must be cared for in the community, many of whom, if they lived in Britain, would be cared for in hospital long-term. This difference between the two systems of care may

explain, in part, the higher levels of pathology observed in the Boulder samples.

It is of interest to note, however, that although the Boulder patients experience worse symptoms, compared with British patients in the community, they report a subjective QOL which is similar to that of the patients in Manchester. A probable reason for this finding is that the relative freedom of community living is a contributory factor to QOL in various domains. The lowest QOL of all groups is among the long-term in-patients in Manchester. Virtually all of the patients interviewed in Boulder expressed a preference for community living over hospital placement. From this perspective, our findings may be seen as offering support for advocates of a system of intensive community support with minimal use of hospital care.

With this type of system, however, it is clear that the community is obliged to accept the presence of significantly disturbed people in its midst. Thornicroft & Bebbington (1989) comment, "Community care, properly provided, can indeed improve the quality of life of the seriously mentally ill, but there will, however, be a continuing need to provide asylum for the most disabled patients" (p. 749). The extent of the asylum provided – the number of available hospital beds – will be influenced by the community's tolerance of disturbed behaviour.

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