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Psychotherapy Services and the Prevalence of Mental Disorders in Urban and Rural Areas

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Summary. This study addresses the issue of need for and provision of psychotherapy care in urban and rural areas. In the first part, prevalence of mental disorders based on epidemiological field studies in the county of Traunstein and the city of Mannheim are discussed. Among patients of general practitioners the prevalence of mental disorders was slightly higher in Mannheim than in Traunstein. Concerning the provision of care, results of a questionnaire survey of a random sample of 1542 nonmedical counsellors or psychotherapists in Traunstein, Mannheim and the metropolitan area of West Berlin are presented. The rate of nonmedical therapists/100,000 inhabitants was the same for Traunstein and Mannheim. A more detailed analysis of their service capacity revealed that it was by 17% to 20% higher for Mannheim than for Traunstein; the prevalence of mental disorders in patients of general practitioners was shown to be about 10% higher in Mannheim than in Traunstein. Under the assumption that there is a linear relationship between prevalence and need for care, there appears to be a slight, but not marked undersupply of services by doctors and nonmedical counsellors or psychotherapists in Traunstein as compared to Mannheim. In comparison, the districts of West Berlin were classified into those with high and those with a low percentage of blue collar workers. The rate of nonmedical counsellors or psychotherapists in the "upper class" districts in West Berlin was almost four times higher than that for the "lower class" districts of West Berlin, in Mannheim and Traunstein. The rate/100,000 for the service capacity of nonmedical counsellors or psychotherapists in the "upper class" districts of West Berlin was much higher, and in the "lower class" districts of West Berlin much lower, than in Traunstein or Mannheim. Our data show that there are some discrepancies in the provision of care between rural and urban areas, which however are not

large when Traunstein is compared with Mannheim; there were however, substantial discrepancies in the provision of care between cities (Mannheim and West Berlin) and between districts within the same city (West Berlin).

Key words: Psychiatric epidemiology - Psychotherapy services - Distribution of professionals

Zusammenfassung. Die Analyse von Bedarf und Angebot psychotherapeutischer Dienste in Stadt und Land ist Gegenstand der Untersuchung. Im ersten Teil werden Prävalenzraten psychischer Erkrankungen aus epidemiologischen Untersuchungen im Landkreis Traunstein und der Stadt Mannheim referiert. In dem Klientel praktischer Ärzte zeigte sich für Mannheim eine geringfügig höhere Prävalenz psychischer Erkrankungen als in Traunstein. Im zweiten Teil der Arbeit werden Ergebnisse zum Versorgungsangebot berichtet. Dazu wurde eine repräsentative Zufallsstichprobe von 1542 nichtärztlichen Therapeuten in der psychosozialen Versorgung im Landkreis Traunstein, der Stadt Mannheim und Berlin-West schriftlich befragt. Die bevölkerungsbezogene Quote nichtärztlicher beratend/psychotherapeutisch Tätiger war für Traunstein und Mannheim gleich hoch. Eine detaillierte Analyse ihrer (bevölkerungsbezogenen) Versorgungskapazität zeigte, daß diese für Traunstein um 17 bis 20% niedriger lag als in Mannheim, während die Prävalenzraten psychischer Erkrankungen sich nur um 10% unterschieden. Unter der Annahme einer linearen Beziehung zwischen Prävalenz und Therapiebedarf besteht in der ländlichen Region (Traunstein) eine leichte Unterversorgung durch nichtärztliche Therapeuten und Ärzten relativ zur Stadt Mannheim. Die bevölkerungsbezogenen Quoten nichtärztlicher Therapeuten war in den sechs Bezirken von Berlin West mit niedrigem Arbeiteranteil (UC) fast viermal höher als in den sechs Bezirken von West Berlin mit hohem Arbeiteranteil (LC), Mannheim und Traunstein. Auch die bevölkerungbezogenen Quoten für die Versorgungskapazität durch nichtärztliche Therapeuten lag in Berlin UC erheblich höher als in Berlin LC, Mannheim und Traunstein. Die Ergebnisse stehen im Einklang mit denen anderer Untersucher, welche über eine geringere Therapeutendichte in ländlichen Gebieten berichten. Die Unterschiede im Versorgungsangebot waren für den Landkreis Traunstein und die Stadt Mannheim allerdings gering; beträchtlich waren dagegen die Unterschiede zwischen den städtischen Gebieten Mannheim und Berlin West (UC) sowie zwischen den verschiedenen Stadtbezirken von Berlin West.

Schlüsselwörter: Psychiatrische Epidemiologie - Psychotherapeutische Versorgung - Geographische Verteilung von Therapeuten

Introduction

A survey of the present need for and provision of care in psychotherapy is of importance for planning future services. Psychiatric epidemiological investigations could be a great asset in this field. However, there have been no empirical

studies of psychotherapy in the Federal Republic of Germany, covering both the need for and provision of care. Previous reports have been restricted to psychoanalytically based psychotherapy or psychotherapy carried out by physicians (e.g. Winkler 1972; Enke 1973 and Bauer 1975). There have been complaints about the general lack of trained psychotherapists in the Federal Republic of Germany (e.g. Enquête: The Situation of Psychiatry in the FRG, 1975). The planning of legislation for the certification and licensing of psychologists has raised the question, to what degree, with what educational qualifications and what types of mental disorders nonmedical therapists (especially clinical psychologists) are working now and should be working in the future. The German Federal Ministry of Health commissioned the Max-Planck-Institute of Psychiatry in Munich to investigate this issue. Some results concerning the provision of services have recently been published (Fichter and Wittchen 1980; Wittchen and Fichter 1980), but information about the need for care and the prevalence of disorders requiring psychotherapy was not considered. The following analysis will attempt to fill this gap. The *need* for psychotherapy and the provision of this care by nonmedical psychotherapists will be analyzed for two selected areas—the county of Traunstein and the city of Mannheim. For comparison the results for the provision of care by nonmedical psychotherapists in West Berlin will be included, although data on the prevalence of mental disorders and the need for psychotherapy are not available for this metropolitan area.

Prevalence of Mental Disorders and the Need for Care

1. Administrative Prevalence

Epidemiological investigations in the United States (Bahn et al. 1966) and England (Wing et al. 1967) have shown that approximately 2% of the general population over 15 years of age have received in- or outpatient psychiatric care in the course of a year. Based on the Camberwell case register, Wing and Wing (1972) gave a conservative estimate of "about 75 patients per 100,000 adult Camberwell population [who] might have been referred for 'specialized psychotherapy' each year if facilities had been available and the consultant psychiatrist willing" (p. 254); the actual referral rate for "specialized psychotherapy" was five times lower.

2. Investigations in General Practice

Because of the fact that 70% of the population of the Federal Republic of Germany visit a general practitioner at least once annually, investigations of general practice provide a relatively good estimate of the "true prevalence" of mental disorders (Pflanz 1973). Investigations of this type were carried out in England (Shepherd et al. 1966; Williams and Clare 1979), in Scandinavia (Bentson 1970; Øgar 1977) and, in the Federal Republic of Germany, in the city of Mannheim (Zintl-Wiegand et al. 1978) and the county of Traunstein (Dilling and Weyerer 1978a). In the following section on the prevalence of mental disorders we shall refer to the results from these two studies in the FRG. In both investigations the same criteria for case identification were used and the interviews were carried out

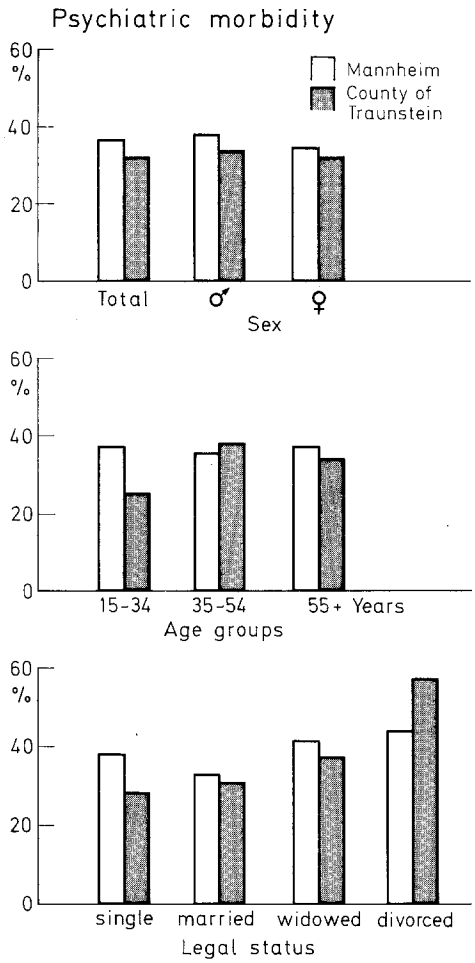

Fig. 1. Psychiatric morbidity in the clientele of general practitioners in the city of Mannheim (Zintl-Wiegand et al. 1978) and the county of Traunstein (Dilling and Weyerer 1978a) according to the judgement of research psychiatrists. Degrees of severity are included from mild (= 1) to very severe (= 4)

by physicians with psychiatric experience. This allows a comparison of the prevalence of mental disorders. In the investigation in Mannheim, 1,026 patients in 13 general practices (total 118) were assessed; in the area of Traunstein, 1,274 patients in 18 general practices (total 83) were investigated. Both studies were based on a representative random sample of patients who, within a timespan of 14 days, visited a general practitioner. The semi-structured interview of Goldberg et al. (1970) was used for case identification and diagnoses were made according to the International Classification of Diseases (ICD 8th Revision).

More than 60% of the patients in general practices were female. There was a lower representation of younger patients and members of lower occupational classes in Traunstein compared with Mannheim. As can be seen in Fig. 1, the percentage of mental disorders according to the judgement of the psychiatric interviewer was 35.5% in the Mannheim general practices and 31.9% in Traunstein, when milder disturbances not requiring treatment are included (main diagnosis only). There was a higher morbidity rate for the age group 15–44 years in the

Table 1. Administrative psychiatric prevalence (in- and outpatients) for the city of Mannheim (Häfner and Klug 1979) and three counties of Upper Bavaria (Dilling and Weyerer 1978b): Relative frequencies of different diagnostic groups

Psychiatric diagnoses (ICD 8)	Relative frequency (%)	
	Mannheim (1973/74) (N=4879)	Berchtesgaden Rosenheim Traunstein (1971) (N=4073)
(Pre)senile dementia and other organic mental disorders	11.0	12.6
Schizophrenia	13.5	15.4
Affective and other psychoses	13.3	19.2
Neurotic/psychosomatic disorders	31.8	32.3
Personality disorders	7.3	4.3
Alcoholism/drug dependency	15.0	5.5
Oligophrenia	1.9	5.7
Other disorders	6.2	4.9
Total	100	100

Mannheim sample as compared to Traunstein. No essential differences between the samples were observed in the older age groups or in either sex. Widowed patients showed slightly and divorced patients markedly increased morbidity rates in both samples. 26.9% of the Mannheim sample and 22.7% of the Traunstein sample had scores of $\geqq 20$ points on the Goldberg interview.

The results are shown separately for the major diagnostic groups in both general practice studies in Table 2. In both regions the rate for neurotic and psychosomatic disorders (20.0% and 18.5% respectively) was about the same according to the judgement of the psychiatric interviewer. The Mannheim patients were more often given diagnoses of alcoholism, drug addiction or psychogeriatric disorders. Personality disorders and oligophrenia were relatively more frequent in the Traunstein sample.

3. Field Studies on Representative Community Samples

It is known that only a fraction of the mentally ill requiring treatment are admitted to psychiatric or psychotherapeutic hospitals. The "true prevalence" of mental disorders is much higher than the "administrative prevalence". The assessment of representative community samples provides a better estimate of "true prevalence" of mental disorders in the general population, including persons who never or seldom consult a general practitioner or have never been diagnosed as being mentally ill. Only one such study has been carried out in the Federal Republic of Germany. In this study of three communities in the county of Traunstein 1536 men and women over 15 years of age were interviewed (Dilling et al. 1983). The percentage of persons refusing to participate in this study was relatively low (6.8%). For marked and severe mental disorders (re-

Table 2. Distribution of psychiatric diagnoses in the clientele of general practitioners in the city of Mannheim and the county of Traunstein according to the judgement of research psychiatrists (main diagnosis only). Degrees of severity are included from mild (=1) to very severe (=4)

Psychiatric diagnosis (ICD 8)	City of Mannheim (N=1026) (%)	District of Traunstein (N=1274) (%)
(Pre)senile dementia and other organic mental disorders (290; 293; 309; 294 außer 294.3)	6.0	4.5
Schizophrenia (295)	0.6	0.4
Affective and other psychoses (296–299)	3.5	3.2
Neurotic/psychosomatic disorders (300: 305–308)	20.0	18.5
Personality disorders (301; 302)	1.2	2.8
Alcoholism/drug dependency (291; 294.3; 303; 304)	2.3	0.9
Oligophrenia (310–315) other disorders, otherwise	0.5	1.6
Not Classifiable	1.5	–
Sum	35.6	31.9

quiring treatment), the prevalence rate was 18.6%. The differences between the separate communities wer small (in the village of Palling 18.3%, in the administrative town of Traunstein 17.7% and in the industrial town of Traunreut 20.1%). These prevalence rates accord well with the average rates found in 33 field studies since 1950 reviewed by Dohrenwend and Dohrenwend (1969). However, the rates are low in comparison with the general practices in the county of Traunstein and the city of Mannheim. The reasons for the higher morbidity rates in the general practitioner sample are as follows: 1. Through the selective use of general practitioners; it was shown that women, older men and unemployed persons were overrepresented. 2. Patients who consulted a general practitioner more frequently had a higher probability of being interviewed by the research psychiatrists. 3. Mild disorders (not requiring treatment) are included here in the general practitioners' sample; when the degree of severity "1" (mild) is included in the representative community sample the prevalence of mental disorders becomes 40.9%. The relative distribution of psychiatric diagnoses did not differ markedly in the different investigations. Personality disorders were diagnosed more frequently in the general practitioner sample; in the field study, alcoholism was diagnosed more frequent (Table 3).

4. Need for Care

Need for care was estimated in the epidemiological studies in Mannheim and the county of Traunstein. These were carried out on the assumption that all necessary institutions were available and that there was sufficient motivation for treatment on the part of the mentally ill. Psychotherapy or psychiatric treatment was

Table 3. Relative frequencies (in % of psychiatric diagnosis) in the clientele of general practitioners and the representative community sample in the county of Traunstein

Diagnoses (ICD 8)	General practice sample (Traunstein)	Repres. community sample (Traunstein)
(Pre)senile dementia	9.0	7.7
Other organic mental disorders	4.3	3.2
Schizophrenia	1.1	2.1
Affective and other psychoses	9.2	7.0
Neurotic/psychosomatic disorders	56.9	60.7
Personality disorders	9.4	3.9
Alcoholism/drug dependency	3.6	9.8
Oligophrenia	6.5	5.6
Total (N=100%)	445	285

considered necessary by the research psychiatrists for 18.3% of all patients examined in the Mannheim general practitioner sample; the corresponding figure was 13.3% for Traunstein. On the other hand, the referral rate recommended by the general practitioners was 3.7% and 3.2% for Mannheim and Traunstein respectively. A similar relationship was observed for the necessity of referral in the representative community sample in the area of Traunstein (Dilling and Weyerer 1980), whereby the general practitioners recommended referral for psychiatric or psychotherapeutic care in 4.9% of cases and the research psychiatrists in 16.0% of the cases. It is hard to say how high the use of services under ideal service conditions would be; these rates should be considered with caution. The need for psychiatric or psychotherapeutic care is influenced very strongly by the illness behavior. In this context the patients' view of his or her illness plays an important role, and according to the judgement of the research psychiatrists, insight into illness was insufficient in 40% of those classified as mentally ill.

Provision of Care by Nonmedical (and Medical) Psychotherapists

Method

A random sample was gathered in several stages. In the first stage of the investigation, all facilities in the psychosocial services of the counties of Traunstein, the city of Mannheim and the city of West Berlin were recorded. For this purpose close cooperation with professional experts in the regions was established[1]. In the second stage the head of each service facility was asked to specify its type and function and to list the name and occupation of each person working there. The number of people working in psychosocial care thus acquired was 96 for Traunstein, 148 for Mannheim and 1219 for West Berlin. This register was extended to include

1 We wish to thank the experts on mental health services in the different regions for their support: Dipl.-Psych. C. Kolling and Prof. Dr. Dr. H. Legewie (Berlin) and Mrs. Krämer (Mannheim)

Table 4. Rates per 100,000 inhabitants for medical and nonmedical therapists in psychosocial care

		Traun-stein	Mann-heim	Berlin UC	Berlin LC
Physicians[a]					
All physicians in private practice KV		93.6	115.2	171.6	119.4
Psychiatrists and neurologists in private practice KV		2.3	2.7	17.3	11.3
Physicians practising psychotherapy in private practice KV		0	1.1	8.0	0.3
Nonmedical psychotherapists and counsellors[b]					
Professions	Nonmedical psycho-therapists or counsellors (total)	22.3	22.7	82.6	23.8
	Psychotherapy only	17.8	17.5	42.2	11.8
	In private practice	4.5	3.5	22.3	5.9
	Psychologists	16.7	14.1	41.4	9.4
	Social worker	1.2	2.9	10.8	6.4
Psychotherapy orientation	Psychoanalysis	4.4	0.6	3.5	1.2
	Behavior therapy	1.2	6.9	10.3	2.6
	Client centered psycho-therapy	3.3	11.8	6.6	2.1
	Other orientations	2.2	5.8	10.4	4.0
	No spec. training in psychotherapy	11.2	8.1	50.6	14.3
	Population size 1977	133,600	330,000	861,300	1,065,500

[a] Source: Kassenärztliche Bundesvereinigung (KV) Cologne
[b] Source: Present survey concerning nonmedical psychotherapists.
KV = physicians in private practice recognized by the Kassenärztliche Vereinigung und all health insurances

the members of 25 psychotherapy associations. From this group of 2,238 people (Traunstein = 125, Mannheim = 226, West Berlin = 1,878) a random sample of 60% was drawn (N = 1,542), consisting of 97 persons in Traunstein (77.6%), 147 in Mannheim (65.0%) and 1,298 in West Berlin (68.8%). A structured questionnaire covering 38 areas of information was sent to each member of this sample of people potentially practising psychotherapy between December 1977 and March 1978. Altogether 825 participants (53.5%) returned the questionnaire fully filled out. The response rate was lowest for Mannheim (46.9%), somewhat higher for West Berlin (53.6%) and highest for Traunstein (61.9%). Despite two reminders, 603 people (39.1%) did not return the questionnaire. In 7.4% (N = 114) the questionnaire sent by mail did not arrive. Of those who answered the questionnaire, 66.2% (according to their own report) were practising psychotherapy or counselling with mentally ill patients for more than three sessions in the preceeding 6 month period. This was considered a minimum criterion for inclusion into the next analysis.

The three regions differ markedly in their sociodemographic characteristics. For the presentation of the results, West Berlin was divided into Berlin UC ("upper class") containing

those 6 districts with a low percentage of blue coller workers (Charlottenburg, Zehlendorf, Wilmersdorf, Schöneberg, Steglitz and Tempelhof), and Berlin LC ("lower class") containing the 6 districts of Spandau, Reinickendorf, Tiergarten, Neukölln, Wedding and Kreuzberg. The county of Traunstein had a somewhat smaller percentage of foreigners (3.6%) compared with the other regions (Mannheim 11.3%, Berlin LC 6.5%, and Berlin UC 10.2%). The percentage of dicorved persons was also somewhat smaller for the county of Traunstein (1.5%) than for the cities of Mannheim (4.1%), Berlin UC (5.7%), and LC (5.9%). The population density was 3.9 per hectare in the county of Traunstain, 22.9 in Mannheim, 39.1 in Berlin UC and 41.0 in Berlin LC. The percentage of elderly persons over the age of 65 years was clearly higher in both areas of West Berlin than in the county of Traunstein or in the city of Mannheim. The percentage of helping family members was considerably higher in Traunstein (14.3%) than in Mannheim (2.2%), Berlin UC (2.0%) or Berlin LC (1.6%). The percentage of self-employed persons was considerably higher in the county of Traunstein (15.8%) than in Mannheim (6.6%), Berlin UC (9.4%), and Berlin LC (5.8%). The percentage of blue collar workers was almost the same for the county of Traunstein (43.2%) and the city of Mannheim (45.6%). It was 35.8% for Berlin UC and 53.8% for Berlin LC. The percentage of white collar workers was rather low for the county of Traunstein (20.3%), amounting to 40.3% for the city of Mannheim, 44.2% for Berlin UC, and 40.9% for Berlin LC. In summary, the county of Traunstein showed a smaller percentage of foreigners, divorced persons, one person households, white collar workers and a lower population density than the urban areas; on the other hand, there was a higher percentage of children and teenagers under 18 years of age, self-employed persons and helping family members.

Results of the Survey

Non-Responders

A 20% random sample of people who did not answer the questionnaire was contacted by telephone. By comparison with the responders fewer were involved in counselling or in psychotherapeutic care, as defined above. Within the group of non-responders, the percentage with a university degree (especially psychologists) and of persons who had completed postgraduate studies or had acquired further qualifications in psychotherapy was smaller than among the responders (Wittchen and Fichter 1980; Fichter et al. 1981).

Occupational and Therapist Groups in the Psychosocial Services[2]

Table 4 shows the rate per 100,000 inhabitants for medical doctors and non-medical professionals in the county of Traunstein, the city of Mannheim, Berlin UC and Berlin LC. At the time of the investigation the rate for all doctors in private practice was smaller in Traunstein (93.6) than in Mannheim (115.2), and Berlin LC (119.4); it was much the highest in Berlin UC (171.6). Similar rate comparisons were also noted for psychiatrists (and neurologists) in private practice

2 In calculating the rates per 100,000 inhabitants as shown in Tables 4 and 5 and Fig. 2, the different response rates in the county of Traunstein, the city of Mannheim and West Berlin were taken into account. The rates represent estimates in which non-responders are included and the assumption is made that the percentage of counsellors and psychotherapists is the same in the non-responders as in the responders. This probably results in slight overestimation. However, since the percentage of 7.4% of the original sample, which could not be reached by the questionnaire, is not included in the calculation, the estimate is most likely balanced and exact

and for doctors qualified to practice psychotherapy ("Zusatztitel Psychotherapie"). Specifically when doctors employed in public psychosocial care institutions are included, a clear predominance of these medical groups can be seen in Mannheim as compared to Traunstein. The *rate per 100,000 inhabitants for nonmedical counsellors or psychotherapists* (total) was the same in Traunstein (22.3), Mannheim (22.7), and Berlin LC (23.8) but almost four times higher in Berlin UC (82.6). Most of these nonmedical therapists in Traunstein and Mannheim were practising psychotherapy (rate for Traunstein 17.8, for Mannheim 17.5), whereas this was not the case among a larger proportion of nonmedical therapists in both areas of Berlin West. Considering different occupational groups and psychotherapy orientation, there were more psychologists, psychoanalysts and nonmedical therapists without specific postgraduate training in psychotherapy and fewer social workers, behaviors therapists and client-centered therapists in Traunstein than in Mannheim. In Berlin UC a higher rate for medical doctors and nonmedical counsellors of psychotherapists and their different subgroups was observed as compared to Traunstein, Mannheim and Berlin LC. For Berlin LC, a larger proportion of the nonmedical therapists were counsellors (not psychotherapists), social workers and therapists without specified postgraduate training in psychotherapy, while professional groups with higher qualifications were underrepresented.

Figure 2 shows the geographic distribution of medical doctors, psychologists engaged in counselling or psychotherapy, nonmedical psychotherapists or counsellors in independent practice, and the percentage of blue collar workers for the twelve districts of West Berlin. A clear similarity in the pattern of distribution of these four variables can be seen, which indicates low rates of medical and nonmedical professionals in working class districts. The Spearman rank correlation for the percentage of blue collar workers with total number of medical doctors was –0.59, with psychiatrists 0.68, with the group of nonmedical counsellors or psychotherapists 0.59, with psychologists 0.71, with psychoanalysts 0.66 and with behavior therapists 0.67.

The percentage of nonmedical counsellors or psychotherapists with a university degree was 80% for Traunstein, 74% for Mannheim, and 68% for Berlin UC; for Berlin LC this percentage was much lower (47%). The average specified post-graduate training in psychotherapy was lowest for nonmedical counsellors or psychotherapists in Traunstein (2.9 years), whereas this training period amounted to more than 4 years in the other regions. The fee for therapists in independent practice for one 50-min session was (for the year 1977) comparatively small for the 6 districts of West Berlin LC at DM 36.00; it was DM 43.00 for the county of Traunstein, DM 45.00 for Berlin UC and DM 53.00 for the city of Mannheim. The percentage of nonmedical counsellors or psychotherapists in independent practice was highest in the county of Traunstein (30%), lowest in the city of Mannheim (18%) and was 27% in Berlin UC and 25% in Berlin LC.

The data for major areas of work, service facilities where nonmedical psychotherapists or counsellors practise, and the diagnostic groups treated by them are calculated in such a way that they represent the service capacity at the time of assessment. Thus, the data for areas of work and service facilities are calculated as the sum of hours worked per week by all therapists in one area of work or

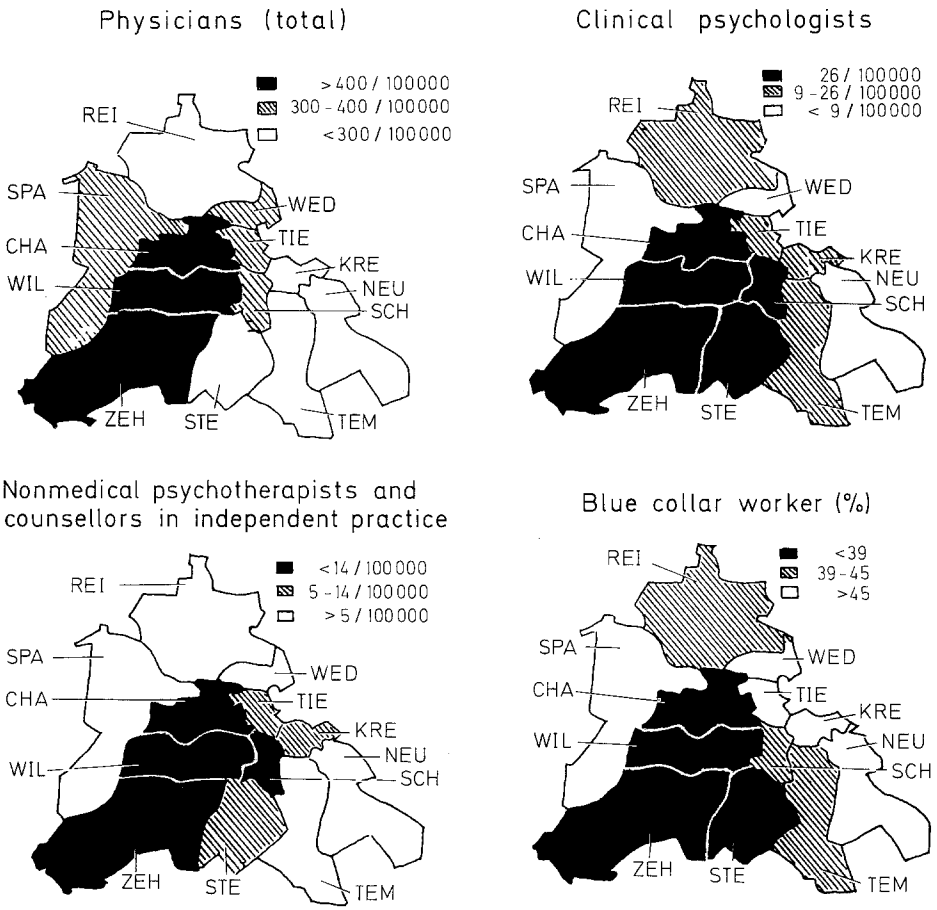

Fig. 2. Geographical distribution of rates per 100,000 inhabitants of physicians, clinical psychologists, nonmedical counsellors or psychotherapists in private practice, and the percentage of blue collar workers in 12 districts of West Berlin. (*REI*=Reinickendorf, *WED*=Wedding, *TIE*=Tiergarten, *KRE*=Kreuzberg, *NEU*=Neukölln, *SCH*=Schöneberg, *TEM*=Tempelhof, *STE*=Steglitz, *ZEH*=Zehlendorf, *WIL*=Wilmersdorf, *CHA*=Charlottenburg, *SPA*=Spandau)

service facility multiplied by 100,000 and divided by the number of inhabitants in the geographical region. Accordingly for diagnostic groups the numbers in Table 5 represent the total number of patients or clients with a certain diagnosis who were treated, multiplied by 100,000 and divided by the population size. Different *areas of work* of nonmedical counsellors or psychotherapists were analyzed in more detail for the rural and urban regions. In the county of Traunstein the rate per 100,000 inhabitants for counselling (excluding psychotherapy) was 124.9 (Mannheim 136.0), for psychodiagnostics 104.8 (Mannheim 75.9), for psychotherapy 243.0 (Mannheim 260.5), for further (continuing) education 65.8 (Mannheim 59.5), for research and teaching 46.8 (Mannheim 89.4) and for other activities 244.2 (Mannheim 300.8). Except for research and teaching, these differences between Traunstein and Mannheim are not striking. The correspondent rates (as

Table 5. Provision of care by nonmedical counsellors or psychotherapists in different service facilities and for different diagnostic groups of patients. All numbers are relative to population size (for reasons of comparison). They were calculated using the formula $N \times 100{,}000$/population size (were n represents the sum of hours worked per week by therapists, or the sum of clients/patients treated within 6 months)

		Traunstein	Mannheim	Berlin UC "upper class"	Berlin LC "lower class„
Service facilities:					
Inpatient services		140.4	256.8	192.9	59.6
Board and care homes		112.6	108.7	106.4	53.3
Outpatients services ("Ambulanzen")		3.3	75.9	78.8	24.2
Counselling services		231.9	195.6	432.5	217.6
Private practice		105.9	72.4	356.5	70.4
Complementary services		–	35.1	51.0	2.1
Sum		594.2	744.5	1218.1	429.2
Diagnostic groups treated (ICD 8):					
	ICD 8:				
Psychoses	290–299	16.7	60.7	86.1	26.9
Neuroses	300	78.1	165.3	250.1	61.7
Personality disorders	301	26.8	49.2	80.7	21.6
Alcoholism	303	62.3	21.0	81.4	71.7
Drug dependency	304	85.8	18.7	61.6	27.3
Psychosomatic disorders	305	26.8	4.4	74.3	16.3
Spec. disorders otherwise not classifiable	306				
Brief disturbance under sit. stress	307	176.1	219.5	172.7	71.7
Disorders in childhood and adolescence	308	48.0	87.1	116.9	31.6
Other diagnoses	302				
	310				
	315	22.3	25.6	68.5	45.7
Sum for all diagnoses		542.8	651.4	985.4	374.6

an indicator for the intensity of care by nonmedical counsellors or psychotherapists) were considerably higher in Berlin UC than in Traunstein or Mannheim.

The distribution of types of services facilities in which nonmedical counsellors or psychotherapists are working is shown in Table 5 (rate of total sum of working hours per week per 100,000 inhabitants). While the rate per 100,000 for nonmedical counsellors or psychotherapists was the same for Mannheim and Traunstein, that for working hours by these therapists in all service facilities was higher in Mannheim (744.5) than in Traunstein (594.2); the corresponding rate

for Berlin LC was rather low (429.2) and for Berlin UC was very high (1,218.1). Considering different service facilities, the rate per 100,000 was higher in Traunstein than in Mannheim for board and care homes, counselling services and private practice; on the other hand, the rates per 100,000 for inpatient services, outpatient services ("Ambulanzen") and complementary services were higher for Mannheim than for Traunstein. The analysis of the distribution of *diagnostic groups treated* by nonmedical counsellors or psychotherapists (total number of patients/clients treated in the past six months per 100,000 inhabitants) shows basically the same results as have been reported for the areas of work and the types of service facilities in which they work. The rate was lowest for Berlin LC with 375 per 100,000, in a medium range for Traunstein (543) and Mannheim 651, and was by far the highest for Berlin UC with 985 per 100,000 when all diagnostic groups are combined. For the city of Mannheim (as compared to the county of Traunstein) the rate for the diagnostic groups of psychoses, neuroses, personality disorders and disorders in childhood and adolescence were relatively high, while they were low for alcoholism, drug dependency and psychosomatic disorders. For all diagnostic groups, the rates were much higher in Berlin UC than in the other regions. For Berlin LC the rates for neuroses, personality disorders, brief disturbances under situational stress and disturbances in childhood and adolescence were especially low.

Discussion

In the present investigation the issue of *need for psychotherapeutic care* and its availability through medical doctors and nonmedical therapists was addressed. More sophisticated psychiatric epidemiological investigations in recent years based on refined methods for identification of need and better operationalisation of diagnostic criteria, impairment and disability have led to more valid and reliable estimates of the prevalence of mental disorders than earlier investigations in the fifties and sixties in North America, whose high rates for mental disorders including mild disturbances were ridiculed as "tabulation of misery" (Blum 1962) and "Manhatten madness" (Hartung 1963). Epidemiological investigations ("Sonderforschungsbereich 116") have revealed the prevalence of mental disorders for the city of Mannheim and the county of Traunstein. For a sensible planning of mental health care it is essential that data about service utilization as well as data about the lack of service facilities are available (Jakubaschk et al. 1978).

There are, however, many interpretations about the need for care based on prevalence rates. The ascertainment of needs for psychotherapeutic care requires a formulation of the "question of indication for therapy for an individual on an epidemiological level". The question must be raised "which therapeutic resources in which quantity should be offered for which epidemiologically significant or diseases" (Katschnig 1975, p 28). Estimates of the need for psychotherapeutic care range from relatively global inferences through the results of epidemiological studies (Bauer 1975; 6 million neurotically and psychosomatically ill in need of treatment in the Federal Republic of Germany) to more

complex estimates as they were dealt with from the Department of Health, Education and Welfare in the USA under the consideration of incidence or prevalence of mental disorders, future population size and the number and duration of treatment for different disorders. Since there is a lack of absolute standards for the determination of need of care, the comparison of prevalence rates of mental disorders in different regions may serve as an initial approximation.

Epidemiological investigations in the city of Mannheim and rural counties of Upper Bavaria showed that the administrative psychiatric prevalence was the same in both regions (1.8%), while the prevalence of mental disorders in the clientele of general practitioners was slightly higher for the city of Mannheim (35.5%) than for the county of Traunstein (31.9%). Because these prevalence rates are based on selected symples, they represent only a rough approximation of the "true prevalence". The prevalence rates of the clientele of general practitioners cited above are relatively high, because they also include mild disturbances. Results of a field study based on a representative community sample in the county of Traunstein represent a more exact estimation of the prevalence of mental disorders requiring treatment–it was 18.6% for marked and severe degrees of severity (Dilling et al. 1983). A representative community sample of the city of Mannheim is now being conducted but no results are yet available for comparison. An exact determination of the need for care based on the results of prevalence studies referred to above appears to be difficult for the following reasons: 1) In the prevalence studies in Mannheim and Traunstein the need for psychiatric or psychotherapeutic treatment was rated for every proband by a research psychiatrist; however, with these estimations the interviewer had a large area of discretion. 2) The general practitioners and the research psychiatrists differed substantially in their estimation of the need for psychiatric or psychotherapeutic care or need for referral to psychiatric services. 3) The symptomatology and acceptance of treatment by the patient and the present provision of care not be separated. An exact estimation of the need of care thus becomes difficult. At the present stage it seems most reasonable to estimate the need for psychotherapeutic care on the basis of prevalence rates. Since the prevalence rate for mental disorders in the clientele of general practitioners was slightly higher for the city of Mannheim than for the county of Traunstein it could be assumed that the need for care might also be slightly higher for Mannheim (when population size is taken into account). If we make this assumption, the supply of care should also be slightly higher for Mannheim than for Traunstein. Following this logic, differences in prevalence rates for certain diagnostic groups, such as a higher prevalence of alcoholism and drug addiction in Mannheim, should be reflected ideally in the tructure and quantity of service facilities.

The results of our survey about the *provision of care* by medical doctors and nonmedical counsellors or psychoterapists–which are complementary to the results in the morbidity studies–can be summarized as follows:

1) The rate per 100,000 inhabitants of nonmedical counsellors or psychotherapists was the same for the county of Traunstein, the city of Mannheim and the 6 districts of West Berlin LC with their high proportion of blue collar workers; it was almost four times higher for the 6 districts of West Berlin UC with a small percentage of blue collar workers. In comparison to Mannheim, in the county of

Traunstein the rate for therapists in private practice, psychologists and psychoanalysts was higher and for social workers, behavior therapists and client-centered therapists lower.

2) The service capacity in different facilities for counselling and psychotherapy (in hours per week per 100,000 inhabitants) was somewhat higher in Mannheim (744) than in Traunstein (594). The service capacity in Berlin LC was much lower and in Berlin UC much higher than in Traunstein or Mannheim. Counselling services (nonmedical counsellors or psychotherapists) and board and care homes are better represented in the county of Traunstein than in the city of Mannheim. On the other hand, there is a higher service capacity for inpatient services, outpatient services ("Ambulanzen") and complementary services in Mannheim as compared to Traunstein. The rate per 100,000 of patients or clients treated by nonmedical therapists was again somewhat higher in Mannheim (651) than in Traunstein (543); it was the highest for Berlin UC and the lowest for Berlin LC. The rate of patients or clients with psychosomatic disorders, alcoholism and drug dependency was higher in Traunstein than in Mannheim. This result is not congruent with the higher prevalence rates for alcoholism and drug dependency in Mannheim. While the rate of nonmedical counsellors or psychotherapists per 100,000 inhabitants was the same for Mannheim and Traunstein, the service capacity of these therapists was somewhat higher in Mannheim. Since the prevalence rates for mental illness were also slightly higher in Mannheim, the difference in the provision of care by nonmedical therapists between Mannheim and Traunstein is not substantial.

3) The rate per 100,000 inhabitants for all physicians in independent practices, psychiatrists (and neurologists), medical psychotherapists and of physicians employed in institution of psychosocial care was somewhat higher in Mannheim than in Traunstein; for Berlin UC again the rates were much higher. These results are inaccordance with those of Miller and Stokes (1978), who showed that in the United States there exists a higher concentration of physicians in large urban regions with comparatively high per capita income. Koran (1981) found that psychiatrists are more abundant in more populous urbanized states and that ratios of psychiatrists to population were correlated with the percentage of the state population with college education, and with statemandated private insurance coverage for psychiatric services.

Wittchen et al. (1980) have shown for a nationwide sample of nonmedical counsellors or psychotherapists in the FRG higher quotas per 100,000 inhabitants in cities with a university and postgraduate psychotherapy training facilities; there was a positive correlation between the rate of counsellors or psychotherapists and population density. While there are postgraduate facilities for training in psychotherapy or psychoanalysis in West Berlin, there are none in the city of Mannheim and county of Traunstein. The presence of these facilities may explain the high rate of medical doctors and nonmedical counsellors or psychotherapists in the "upper class" districts of West Berlin; it does not explain the low quota of therapists in the "lower class" district of Berlin. In Mannheim there is a university (including faculty for medicine and psychology), while there are no postgraduate training facilities for psychotherapy or psychoanalysis. However,

there are postgraduate training facilities and a university in the nearby city of Heidelberg. This apparently has little impact on the rate of counsellors and psychotherapists in Mannheim. It could be argued that there may be plenty of therapists in Heidelberg, who can be reached by patients from Mannheim. If that is the case, then the situation is similar to West Berlin: Therapists are preferably located in culturally and otherwise attractive towns or "upper class" districts and are not easily accessible for many of their potential patients.

An analysis of the supply of services within West Berlin shows consistently higher relative population quotas in Berlin UC in comparison to Berlin LC for physicians as well as nonmedical counsellors or psychotherapists, for their capacity for service supply in different service facilities and for different diagnostic groups. The magnitude of this discrepancy in the provision of care in different districts of West Berlin can hardly be explained as an expression of possible differences in the prevalence of mental disorders and need for care; unfortunately data on the prevalence of mental disorders and need for care are not available for West Berlin. Not only the rate of therapists, but also the graduate and postgraduate training qualifications are lower for the few nonmedical therapists in Berlin LC as compared to Berlin UC.

It can be assumed that a social distance exists between therapists and their potential clients or patients from lower classes. Present psychotherapy procedures require for the most part a good capability in verbal communication and introspection. Their use is restricted with clients or patients from lower occupational classes. According to the results it appears necessary that procedures be further developed, which help to decrease the social distance between therapists and many of their potential patients and which can be used effectively with patients whose ability to introspect and express themselves verbally is less developed. According to Moeller (1972), the mentally ill often do not seek, and even avoid, professional help. Provision of care, need for care and illness behavior are in close interaction with one another. For an analysis of the geographical distribution of therapists and its causes it appears to be necessary to keep in mind not only therapist variables, but also the illness behavior of potential clients. A more active provision of care which reaches also those mentally ill in need of care, who avoid contacting service facilities (Moeller 1972), and information through public media, could help counteract the hesitance and avoidance of certain patients to seek professional help. The utilization of service facilities in psychosocial care depends also on their accessibility. In comparison with larger cities, the accessibility of service facilities is rendered more difficult in widespread rural areas. In the county of Traunstein more than 60% of the population still lives in small villages or twons ($< 5{,}000$ inhabitants) at further distance from service facilities for psychotherapy. It has been shown for psychiatrists (and neurologists) in private practice in the county of Traunstein, that utilization was much lower among people living at a greater distance (> 5 km) from the care facility (Dilling and Weyerer 1978b). These disparities in care utilization are likely to be the same for nonmedical counsellors and psychotherapists.

In the present study the city of Mannheim and the county of Traunstein have been chosen for assessment because data on the prevalence of mental disorders are available. The countryside in Traunstein is attractive for recreational activ-

ities; Traunstein is easily accessible by car or train and is located 150 km from Munich and 30 km from Salzburg (Austria), which both have a university and larger postgraduate training institutes for psychotherapy. The county of Traunstein is probably not representative for many other rural areas nor is the industrial city of Mannheim for many other cities in the FRG. When other geographical areas are considered, the discrepancy in the provision of psychotherapeutic care between urban and rural areas will most likely be more pronounced. Our results show that there are some discrepancies in the provision of care between rural and urban areas; they also show that there are substantial discrepancies between cities and even between districts within the same city. We have attempted to assess the *quantity* of medical and nonmedical counselling and psychotherapy services in different geographical areas and to compare these data with prevalence rates of mental disorders as indicators for the need of care. It is not possible from our results to make inferences concerning the *quality* of counselling and psychotherapy services and to evaluate the effectiveness of existing services. Although these issues are also of importance for future public policy, we cannot comment on them on the basis of our results.

Health legislation affecting the practice of psychologists or nonmedical psychotherapists has recently been passed in some countries and is pending in many others (Fichter and Wittchen 1980). Our and other empirical findings concerning the geographical distribution of mental health professions can contribute to a sensible planning of future care for the mentally ill as well as public and legislative action. According to experience in other countries (Dickinson and Bradley 1954; Wolff 1966), it cannot be expected that the anticipated increased of psychologists and physicians in the Federal Republic of Germany in the coming years will automatically result in a better-balanced distribution of therapists. In an analysis of provision and use of care, different factors, such as geographical distribution, the restricted spectrum for therapy procedures for certain population groups, illness behavior on the part of the patients and preferences concerning location and clientele on the part of the therapists must be taken into account. To achieve a balanced provision of psychotherapy care it appears necessary to consider all these factors. The object of this investigation is not to supply final solutions to the problems, but rather to stimulate informed discussion which may eventually bring about improvements in the delivery of services for those in need.

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References

Bahn AK, Gardner EA, Alltop L, Knattarud GL, Solomon M (1966) Admission and prevalence rates for psychiatric facilities in four register areas. Am J Public Health 56 : 2033–2051

Bauer M (1975) Bemerkungen zum Status quo der ambulanten und stationären Psychotherapie in der BRD. Psychiatr Prax 2 : 13–27

Bentsen BG (1970) Illness and general practice. Universitetsforlaget, Oslo

Blum RH (1962) Case identification in psychiatric epidemiology: methods and problems. Milbank Mem Fund Q 40 : 253

Dickinson CE, Bradley E (1954) Distribution of physicians by medical services areas. American Medical Assoc, Chicago

Dilling H, Weyerer S (1978a) Epidemiologie psychischer Störungen und psychiatrische Versorgung. Urban & Schwarzenberg, München Wien Baltimore

Dilling H, Weyerer S (1978b) Patienten mit psychischen Störungen in der Allgemeinpraxis und ihre psychiatrische Überweiseungsbedüftigkeit. Bericht an die Deutsche Forschungsgemeinschaft über das Projekt A 2b im Sonderforschungsbereich 116, München

Dilling H, Weyerer S, Castell R (1983) Psychische Erkrankungen in der Bevölkerung. Enke Verlag, Stuttgart

Dohrenwend BP, Dohrenwend BS (1969) Social status and psychological disorder: A causal inquiry. J. Wiley & Sons, New York London Sydney Toronto

Enke H (1973) Möglichkeiten und Grenzen der Psychotherapie in der Industriegesellschaft. In: Döhnert O (Hrsg) Arzt und Patient in der Industriegesellschaft. Suhrkamp Verlag, Frankfurt

Fichter MM, Wittchen HU (1980) Nichtärztliche Psychotherapie im In- und Ausland. Zur psychotherapeutischen Versorgung durch nicht-ärztliche Berufsgruppen. Beltz Verlag, Weinheim

Fichter MM, Wittchen HU, Meller I (1981) Distribution of psychotherapy and counselling services within West Berlin. Soc Psychiatr 16 : 111–121

Goldberg DP, Cooper B, Eastwood MR, Kedward HB, Shephard M (1970) A standardized psychiatric interview for use in community surveys. Br J Prev Soc Med 24 : 18–23

Häfner H, Klug J (1980) First evaluation of the Mannheim community mental health service. Acta Psychiatr Scand (Suppl) 285 : 68–78

Hartung FE (1963) Manhatten madness: The social movement of mental illness. Soc Q 261 : 11–18

Jakubaschk J, Klug F, Weyerer S, Dilling H (1978) Bedarf und Behandlungsbedürftigkeit – Überlegungen zur psychiatrischen Versorgung. Psychiatr Prax 5 : 203–211

Katschnig H (1975) Psychotherapiebedarf. Psychiatr Prax 2 : 28–34

Koran M (1981) Psychiatrists' distribution across the 50 states, 1978. Arch Gen Psychiatr 38 : 1155–1159

Miller MK, Stokes CS(1978) Health status, health resources and consolidated structural parameters. Implication for public health care policy. J Health Soc Behav 19 : 263–279

Möller ML (1972) Krankheitsverhalten bei psychischen Störungen und die Organisation psychotherapeutischer Versorgung. Nervenarzt 54 : 351–360

Øgar B (1977) Patienten in norwegischen Allgemeinpraxen. Universitetsforlaget, Oslo

Pflanz M (1973) Überlegungen zur primärärztlichen Betreuung der Bevölkerung. In: Döhner O (Hrsg) Arzt und Patient in der Industriegesellschaft. Suhrkamp, Frankfurt/Main

Shepherd M, Cooper B, Brown AC, Kalton C (1966) Psychiatric illness in general practice. Oxford University Press, London

Williams P, Clare A (1979) Psychosocial disorders in general practice. Academic Press, London New York Toronto Sydney San Francisco

Wing JK, Wing L (1972) Specialized psychotherapy and long-term support in the out-patient department. In: Wing JK, Hailey A (eds) Evaluating a community psychiatric service. The Camberwell register 1964–71. Oxford University Press, Oxford, pp 249–257

Wing L, Wing JK, Hailey A, Bahn AK, Smith HE, Baldwin JA (1967) The use of psychiatric services in three urban areas. An international case register study. Soc Psychiatr 2 : 158–167

Winkler WT (1972) Bedarf an Psychotherapie und derzeitiges Angebot. Z Psychother Med Psychol 22 : 81–88

Wittchen HU, Fichter MM (1980) Psychotherapie in der Bundesrepublik. Materialien und Analysen zur psychosozialen und psychotherapeutischen Versorgung. Beltz Verlag, Weinheim

Wittchen HU, Fichter MM, Dvorak A, von Zerssen D (1980) Strukturelle Besonderheiten der psychotherapeutischen Versorgung. Psychother Med Psychol 30 : 95–107

Wolff LT (1966) The distribution of physicians in six counties in New York State. Health News 4 : 11–14

Zintl-Wiegand A, Schmidt-Maushart C, Leisner R, Cooper B (1978) Psychiatrische Erkrankungen in Mannheimer Allgemeinpraxen. Eine klinische und epidemiologische Untersuchung. In: Häfner H (Hrsg) Psychiatrische Epidemiologie. Springer, Berlin Heidelberg New York

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