Eur Arch Psychiatry Clin Neurosci (2005) 255 : 57–64 DOI 10.1007/s00406-004-0537-7

ORIGINAL PAPER

Lennart Jansson · Karin Sonnander · Frits-Axel Wiesel

Needs assessed by psychiatric health care and social services in a defined cohort of clients with mental disabilities

Received: 28 October 2003 / Accepted: 11 June 2004 / Published online: 12 November 2004

Abstract *Background* The identification of needs for support and service in clients with long-term mental disabilities is usually not done by staff personnel from both psychiatric care and social services. However, such a process is probably necessary in order to provide adequate psychiatric care and social services. *Aims* To estimate the prevalence of mentally disabled clients and investigate whether staff from psychiatric care and social services identified the same individuals and the same number of needs in the same areas. *Methods* Clients from a defined catchment area were identified during a three-month period. A questionnaire was developed to collect socio-demographic information and to assess needs for support and service. *Results* The study identified 1,290 clients with needs with a prevalence of 5.72/1000 inhabitants. More than half of the clients needed support in activities of daily living. Only 18.1 % of the clients were identified by both organizations. In general, the staff from psychiatric care and social services identified the same needs at a group level. However, at the individual level, agreement was quite low. *Conclusions* The staffs from both psychiatric care and social services are necessary to evaluate the needs of support and services in clients with mental disabilities.

Key words epidemiology · needs assessment · community mental health services · severe mental illness

Introduction

The development of community psychiatry in Sweden and other European countries during the 1970s has led to dramatic changes in the living conditions for long-term mentally ill patients. This change involved many problems associated with patients living in the community (Bachrach 1996; Bollini and Mollica 1989; Borgå et al. 1992). Although patient needs for medical treatment were largely fulfilled (Stefansson and Cullberg 1986), other needs, such as accommodation (Bachrach 1996; Nordentoft et al. 1992) and social rehabilitation (Stefansson et al. 1990) were not satisfied. Consequently, a psychiatric care reform bill was implemented in Sweden in 1995 giving responsibilities to both public health care and community social services (Swedish government bill 1993/94:218). In this new reform staff members of psychiatric care and social services were recommended to identify clients with needs for support and service in order to improve care for such persons. However, the difference in perspectives between the two organizations (i. e. the public health care sector and the community social services sector) may influence the identification and assessment of such needs. There is a lack of knowledge regarding this issue and this kind of data is not currently available. Therefore, the aim of the present study was to estimate the prevalence of mentally disabled clients with needs of care and service and to investigate if the staff personnel from the two organizations identified the same individuals and the same number of needs in the same areas.

L. Jansson, MSc (✉) · K. Sonnander, PhD · F.-A. Wiesel, MD, PhD
Department of Neuroscience, Psychiatry, Ulleråker
Uppsala University Hospital
750 17 Uppsala, Sweden
Tel.: +46-18/611-2953
Fax: +46-18/611-2020
E-Mail: Lennart.Jansson@neuro.uu.se

Method

Characteristics of the catchment area

The study was a population investigation conducted in the County of Uppsala which includes urban as well as rural areas, with 225,409 inhabitants 18 years or older (at the end of the index year 1999). The urban area (146,233 inhabitants 18 years or older) comprised mainly the Uppsala municipality while the rural area (79,176 inhabitants 18 years or older) comprised five minor municipalities. The total population density, including inhabitants younger than 18 years, was 76 inhabitants per km^2 in the urban area and 23 inhabitants per km^2 in the rural area.

Inclusion criteria

The inclusion criteria for the clients were: (a) 18 years of age and older, (b) resident of Uppsala County during the index year 1999, (c) suffering from a mental disorder that had caused a decrease in function and that significantly interfered with daily life activities for at least the past six months, and (d) at least one need of support in activities of daily living, or one unmet need of service provided by the public health care or community social services. Individuals with known mental retardation or dementia were excluded.

Need of Support and Service Questionnaire (NSSQ)

It was considered necessary to develop a specially tailored questionnaire to assess needs of support and service provided by the public health care and community social service organizations. The commonly used Camberwell Assessment of Need (CAN) instrument (Phelan et al. 1995) was not considered appropriate for this purpose because it does not cover all domains we considered important to assess. A questionnaire was therefore developed by the first author to collect (1) client data on demographic variables, (2) needs for support in activities of daily living, and (3) needs for services provided by the public health care and community social service organizations. Similarly to the CAN, items were based on the most frequently reported needs identified in earlier studies (Borgå et al. 1992; Ford et al. 1992; Phelan et al. 1995). The questionnaire was developed in close co-operation with the staff at the psychiatric care and social services within the county of Uppsala.

The fixed response format questionnaire consisted of 33 items covering four domains: *(i) Socio-demographic information and present living situation:* gender (male or female), age, place of birth (Sweden, Nordic countries or non-Nordic countries), living area (urban or rural), current accommodation (independent or assisted care living), cohabitation status (living alone, living with partner or living with parents), children living at home (yes or no), educational level (primary school, secondary school or university), income (salary, rehabilitation allowance, social allowance, disability pension or age pension), and work (open market, sheltered, self-employed, study or unemployed) (10 items); *(ii): need of support in activities of daily living:* personal hygiene, preparing a meal, buying food, cleaning and washing, buying clothes, handling finances, taking medication, interpersonal skills, using a telephone, making contacts with public authorities, using public transportation, and to transport oneself (12 items assessed on a 4-point scale with the response categories 'no help needed,' 'some help needed,' 'unable to manage without help,' and 'need unknown'); *(iii): need of service provided by the public health and social service sectors:* psychiatric care, dental care, home help services, mobility service, trustee, social activities (i. e. to have somewhere to go and meet other persons), scheduled activities (more planned and scheduled activities as compared with the less planned and scheduled social activities), job training, and occupational rehabilitation (9 items assessed on a 6-point scale with the response alternatives 'adequate service provided,' 'inadequate service provided,' 'service can be reduced,' 'need of service,' 'no need of service' and 'need unknown'); and *(iv): need of assisted care living and need of work* (2 items).

Reliability

Data suitable for assessing test-retest and inter-rater reliability were collected on 84 out-patient clients. Seven raters were used, all mental health workers. In sum, the overall test-retest reliability was 0.86 and the inter-rater reliability was 0.76 for the whole questionnaire.

Social and Occupational Functioning Assessment Scale (SOFAS)

The SOFAS Scale (American Psychiatric Association 1994) was used to rate the clients' social and occupational functioning during the past month. The scores range on this scale from 1 to 100, with higher scores indicating better functioning. The SOFAS differs from the Global Assessment of Functioning (GAF) Scale in that the former focuses on the level of social and occupational functioning.

Case-finding and data collection procedure

During a three-month period (October 1999 – December 1999), all staff in psychiatric care (mental nurses, social workers, registered nurses, physiotherapists, occupational therapists, psychologists and psychiatrists) and social services (social service workers, work managers, and registered nurses) were asked to identify all the clients with long-term mental disabilities who met the inclusion criteria and with whom they had personal knowledge. An unmet need was defined when health care or social services were not provided or were not provided adequately. Staff filled out the NSSQ and the SOFAS questionnaires for each client and returned it to the first author. The study was approved by the Research Ethics Committee of the Medical Faculty, Uppsala University.

Psychiatric diagnoses

The main psychiatric diagnoses for each client were obtained from the medical records. To obtain uniform data all diagnoses classified according to the DSM-IV (American Psychiatric Association 1994) or the ICD-10 (WHO 1992) were converted into seven diagnostic groups: schizophrenia (DSM-IV = 295 or ICD-10 = F20), affective psychosis (DSM-IV = 296 and 311 or ICD-10 = F30–F39), other psychosis (DSM-IV 297–298 or ICD-10 = F21–F29), neurotic disorder (DSM-IV = 300 or ICD-10 = F40–F48), personality disorder (DSM-IV = 301 or ICD-10 = F60–F69), substance-related disorder (ICD-10 = F10–F16), and all other diagnoses.

Data handling

In cases when a client was identified by two or more staff either in psychiatric care or social services and the assessments differed from one another (e. g., both 'no need' and 'need' was assessed) the response alternative 'need' was included in the analysis.

In the analysis of needs the response alternatives 'some help needed' and 'unable to manage without help' were combined into 'help needed.' The response alternatives 'adequate service provided' and 'service can be reduced' were combined into a 'met need.' The response alternatives 'inadequate service provided' and 'need of service' were combined into 'an unmet need.' The importance of age was controlled for in need of support and unmet need of service by dividing the clients into four age groups: 18–30 years, 31–44 years, 45–64 years and 65–92 years.

Statistics

The Pearson chi-square statistics with pair-wise follow-up comparisons was used for categorical variables. One-way analysis of variance (ANOVA) was performed for the continuous dependent variables. *Post hoc* pair-wise comparisons were made by Bonferroni test statistics. Cohen's kappa coefficient (Cohen 1960) was used as a measure of agreement between staff in psychiatric care and social services together with calculations of total percentage of agreement. To give a more complete description two separate indexes of proportionate agreement in the staffs' positive (p_{pos}) and negative (p_{neg}) decisions were calculated (Cicchetti and Feinstein 1990). A high p_{pos} indicates high agreement on the presence of a need. A high p_{neg} indicates a high agreement on the absence of a need. Staffs agreement was based on ratings of 'need of support,' 'unmet need of service' and 'met need of service.' The statistical software used was SPSS for Windows (Statistical Package for Social Sciences, version 11.5). All reported p-values were two-tailed and the level of statistical significance was set at $p < 0.01$ due to the high number of comparisons.

Results

The survey identified 1,290 clients. They were divided into three groups for further analysis. The first group was identified by the staff in the psychiatric care only (P group, n = 636). The second group was identified by staff in the social services only (S group, n = 421), and the third group was identified by the staffs in both the psychiatric care and the social services independently (PS group, n = 233). Characteristics of the groups are shown in Table 1.

Clients in the P group differed from the other groups in living with a partner and having children living at home under 18 years of age. Further, these clients had a higher level of social and occupational functioning and a rehabilitation allowance more often than the clients in the other groups. Clients in the S group were older, had assisted care living (i. e. sheltered housing) more frequently, and less often a secondary school education. They had also more frequently a diagnosis of substance-related disorder and less often a diagnosis of other psychoses than the other groups. Clients in the PS group had a disability pension and a diagnosis of schizophrenia more often than clients in the P and S groups. The groups did not differ in gender, country of birth or living in urban or rural areas.

Need of support in activities of daily living

More than half of the identified clients needed support in activities of daily living. The most frequent needs of support concerned contacts with public authorities, interpersonal skills, cleaning and washing, handling finances, and taking medication (Table 2).

Statistically significant differences were observed in the number of needs of support among the groups ($F = 133.83$, $df = 2$, $p < 0.001$). Clients in the P group (mean needs 3.48, sd = 3.18) had less needs of support in all activities in comparison to the other groups. The corresponding means for clients in the S and PS groups were 6.38 (sd = 4.05) and 7.09 (sd = 3.27), respectively. Furthermore, clients in the S group had more needs of support than the other groups in using public transportation, using a telephone, and to transport oneself. Clients in the PS group had more needs of support in interpersonal skills and in contact with public authorities. In all groups increasing age led to an increased need of support. The differences among the groups remained even after controlling for age, except for the youngest group (i. e., 18–30 years of age).

Unmet needs of service

The most frequent unmet needs of service provided by public health care and community social service organizations are shown in Table 3. Clients in the PS group were reported to have more unmet needs of service (mean = 3.21, sd = 1.97) than the other two groups ($F = 33.75$, $df = 2$, $p < 0.001$). The corresponding means for the clients in the P and S groups were 2.21 (sd = 1.73) and 2.00 (sd = 2.01), respectively. Differences between the groups before controlling for age are shown in Table 3. In four areas (social activity, scheduled activity, home help service, and assisted care living) clients in the PS group were reported to have a greater frequency of unmet needs than clients in the P and S groups.

After controlling for age, some of these differences remained. Older clients (65–92 years of age) in the S group had less unmet needs of home help service than clients of the same age in the other groups. Clients in the PS group had more unmet needs of assisted care living than clients in the other groups, except for the oldest (65–92 years of age) clients in the P group and clients younger than 45 years of age in the S group. Moreover, clients in the PS group had more unmet needs of social activities and scheduled activities than clients in the other groups, except for clients 18–30 years old in the P group and clients younger than 45 years of age in the S group.

Comparison of assessed needs between staffs in psychiatric care and social services

When staffs in psychiatric care and social services were compared, agreement on needs of support in activities of daily living corresponded well in both number of needs and in need areas (Table 4). In only one area, i. e. using a telephone, did the staff in social services identify more client needs than did the staff in psychiatric care.

The best pair-wise agreements were in the activities using public transportation and cleaning and washing, where the kappa values were 0.67 and 0.65, respectively. Moderate agreements were found in five areas and fair agreements in three areas (Table 4); in two areas only slight agreements were found. In addition, separate indexes of positive and negative agreements were calculated. In general, positive agreements on the presence of a need of support were higher than negative agreements, i. e. agreement of the absence of a need.

Agreements on identified unmet service needs also corresponded well in number of unmet needs and in need areas (Table 5). However, the pair-wise agreements were low. A moderate agreement (Cohen's kappa 0.50) was found in one area (assisted care living) only. Fair agreement (0.21–0.30) was found in four areas (trustee, home help service, work, and job training). Only slight agreements were found in five areas.

There were also differences between staffs' ratings in the two organizations concerning whether the client had a met need of service provided by the public sector. A substantial agreement of a met need was found in four areas (Cohen's kappa 0.63–0.72): need of a trustee, work, assisted care living, and mobility service. Moderate agreement (0.52) was found in home help service. Fair

Table 1 Sociodemographic data of identified clients with a mental disability living in the community reported by psychiatric care and social service (percentages in parentheses)

	Source of identification			
	Psychiatric care only (P)	Social services only (S)	Psychiatric care and Social services (PS)	Significant differences between the groups
Sample size	636 (49.3)	421 (32.6)	233 (18.1)	
Gender				
Male	304 (47.8)	212 (50.4)	130 (55.8)	
Female	332 (52.2)	209 (49.6)	103 (44.2)	
Age, (years mean)	44.6	53.6	46.0	$F = 55.49$; $p < 0.001$; S > P, PS
sd	12.6	16.4	11.7	
Country of birth				
Sweden	521 (81.9)	367 (87.2)	203 (87.1)	
Other Nordic countries	47 (7.4)	21 (5.0)	8 (3.4)	
Non-Nordic countries	68 (10.7)	33 (7.8)	22 (9.4)	
Living area				
Urban	441 (69.3)	299 (71.0)	158 (67.8)	
Rural	195 (30.7)	122 (29.0)	75 (32.2)	
Accommodation				
Independent living	595 (93.6)	267 (63.4)	179 (76.8)	
Assisted care living	37 (5.8)	150 (35.6)	54 (23.2)	$\chi^2 = 152.86$; $p < 0.001$; S > P, PS; PS > P
Unknown[1]	4 (0.6)	4 (1.0)		
Cohabiting status				
Living alone	446 (69.6)	361 (84.8)	200 (85.9)	
Living with partner	126 (20.3)	29 (7.5)	17 (7.3)	$\chi^2 = 58.23$; $p < 0.001$; P > S, PS
Living with parents	43 (6.0)	11 (2.7)	15 (6.4)	
Unknown[1]	21 (4.1)	20 (5.0)	1 (0.4)	
Children at home				
Children at home	61 (9.6)	21 (5.0)	8 (3.4)	$\chi^2 = 14.25$; $p < 0.001$; P > S, PS
No children at home	542 (85.2)	369 (87.4)	225 (96.6)	
Unknown[1]	33 (5.2)	31 (7.6)		
Educational level				
Primary school	289 (45.5)	215 (51.1)	113 (48.5)	
Secondary school	217 (34.1)	80 (19.0)	86 (36.9)	$\chi^2 = 23.22$; $p < 0.001$; S < P, PS
University	74 (11.6)	36 (8.5)	30 (12.9)	
Unknown[1]	56 (8.8)	90 (21.4)	4 (1.7)	
Income				
Salary	40 (6.3)	15 (3.5)	9 (3.9)	
Rehabilitation allowance	60 (9.4)	16 (3.8)	6 (2.6)	$\chi^2 = 20.28$; $p < 0.001$; P > S, PS
Disability pension	428 (67.3)	199 (47.3)	191 (82.0)	$\chi^2 = 86.03$; $p < 0.001$; PS > P, S; P > S
Social allowance	40 (6.3)	28 (6.7)	8 (3.4)	
Age pension	45 (7.1)	115 (27.3)	17 (7.3)	$\chi^2 = 97.58$; $p < 0.001$; S > P, PS
Unknown[1]	23 (3.6)	48 (11.4)	2 (0.8)	
Diagnostic groups				
Schizophrenia	240 (37.7)	139 (33.0)	125 (53.6)	$\chi^2 = 27.76$; $p < 0.001$; PS > P, S
Affective psychosis	106 (16.7)	71 (16.8)	28 (12.0)	
Other psychosis	131 (20.6)	37 (8.8)	38 (16.3)	$\chi^2 = 26.35$; $p < 0.001$; S < P, PS
Neurotic disorder	48 (7.5)	39 (9.3)	11 (4.7)	
Personality disorder	78 (12.3)	53 (12.6)	24 (10.3)	
Substance-related disorder	9 (1.4)	26 (6.2)		$\chi^2 = 29.68$; $p < 0.001$; S > P, PS
Other diagnosis	22 (3.5)	14 (3.3)	5 (2.2)	
Unknown[1]	2 (0.3)	42 (10.0)	2 (0.9)	
SOFAS mean	52.8[2]	47.0[3]	49.1[4]	$F = 19.15$; $p < 0.001$; P > S, PS
sd	12.5	17.1	12.2	

[1] Unknown or not reported. Not included in the data analysis; [2] n = 606; [3] n = 294; [4] n = 230

agreement (0.27–0.40) was found in job training and scheduled activities, and poor agreement (–0.03–0.16) was found in four areas. In general, agreement on the presence of a met need of service was higher than the agreement on the presence of an unmet need of service.

Discussion

The public health care and community social services are two important organizations that serve to improve

Table 2 Needs of support in activities of daily living for all clients, identified by professionals in psychiatric care only (P), social service only (S), and by both psychiatric care and social service (PS)

Variables[1]	Source of identification: Psychiatric care only (P) Help Needed[2] n (%)	Psychiatric care only (P) Need unknown n (%)	Social service only (S) Help needed[2] n (%)	Social service only (S) Need unknown n (%)	Both Psychiatric care and Social service (PS) Help needed[2] n (%)	Both Psychiatric care and Social service (PS) Need unknown n (%)	Significant differences between help needed in the groups[3]	
Sample size	636		421		233			
Contact public authorities	326 (51.3)	45 (7.1)	284 (64.5)	50 (11.9)	197 (84.2)	5 (2.1)	$\chi^2 = 92.42$**	PS > P, S; S > P
Interpersonal skills	290 (45.6)	40 (6.3)	285 (64.8)	48 (11.4)	197 (84.2)	4 (1.7)	$\chi^2 = 134.67$**	PS > P, S; S > P
Cleaning/washing	229 (36.0)	33 (5.2)	279 (63.4)	37 (8.8)	175 (74.8)	4 (1.7)	$\chi^2 = 161.60$**	PS > P; S > P
Handling finances	231 (36.3)	48 (7.5)	271 (61.6)	44 (10.5)	168 (71.8)	3 (1.3)	$\chi^2 = 132.42$**	PS > P; S > P
Taking medication	284 (44.7)	33 (5.2)	267 (60.7)	67 (15.9)	82 (77.8)	2 (0.9)	$\chi^2 = 111.17$**	PS > P; S > P
Preparing a meal	171 (26.9)	45 (7.1)	247 (56.1)	49 (11.6)	149 (63.7)	8 (3.4)	$\chi^2 = 166.49$**	PS > P; S > P
Buying food	168 (26.4)	38 (6.0)	222 (50.4)	59 (14.0)	137 (58.5)	3 (1.3)	$\chi^2 = 127.91$**	PS > P; S > P
Buying clothes	157 (24.7)	45 (7.1)	221 (50.2)	62 (14.7)	137 (58.5)	7 (3.0)	$\chi^2 = 143.30$**	PS > P; S > P
Using public transportation	176 (27.7)	49 (7.7)	215 (48.9)	46 (10.9)	105 (44.9)	7 (3.0)	$\chi^2 = 72.93$**	S > P, PS; PS > P
Personal hygiene	85 (13.4)	12 (1.9)	184 (41.8)	33 (7.8)	117 (50.0)	1 (0.4)	$\chi^2 = 177.88$**	PS > P; S > P
Using a telephone	55 (8.6)	24 (3.8)	129 (29.3)	47 (11.2)	60 (25.6)	2 (0.9)	$\chi^2 = 100.45$**	S > P, PS; PS > P
To move	41 (6.4)	68 (10.7)	83 (18.9)	43 (10.2)	28 (12.0)	6 (2.6)	$\chi^2 = 43.81$**	S > P, PS; PS > P

[1] Variables sorted by total numbers of help needed
[2] The answers 'some help needed' and 'unable to manage without help' were compiled to 'help needed'
[3] Based on overall chi-square tests (categorical variables), with pair-wise follow-up comparisons; ** $p < 0.001$

Table 3 Unmet needs of service provided by public health and social service sector for all clients as identified by professionals in psychiatric care only (P), by social service only (S) and by both psychiatric care and social service (PS)

Variables[1]	Source of identification: Psychiatric care only (P) Unmet needs n (%)	Psychiatric care only (P) Needs unknown n (%)	Social service only (S) Unmet needs n (%)	Social service only (S) Needs unknown n (%)	Both Psychiatric care and social service (PS) Unmet needs n (%)	Both Psychiatric care and social service (PS) Needs unknown n (%)	Significant differences between unmet needs in the groups[2]	
Sample size	636		421		233			
Social activities	322 (50.6)	44 (6.9)	185 (43.9)	71 (16.9)	185 (79.4)	2 (0.9)	$\chi^2 = 53.12$***	PS > P,S
Scheduled activities	254 (39.9)	68 (10.7)	133 (31.6)	94 (22.3)	155 (66.5)	6 (2.6)	$\chi^2 = 46.83$***	PS > P,S
Psychiatric care	133 (20.9)	7 (1.1)	105 (24.9)	64 (15.2)	64 (27.5)	3 (1.3)	$\chi^2 = 9.70$**	PS > P;S > P
Work	144 (22.6)	254 (39.9)	55 (13.1)	204 (48.5)	58 (24.9)	66 (28.3)	$\chi^2 = 9.60$**	P > S
Job training	130 (20.4)	60 (9.4)	62 (14.7)	76 (18.1)	40 (17.2)	22 (9.4)	NS	
Occupational rehabilitation	112 (17.6)	56 (8.8)	60 (14.3)	75 (17.8)	53 (22.7)	5 (2.1)	NS	
Home help service	90 (14.2)	61 (9.6)	53 (12.6)	40 (9.5)	57 (24.5)	18 (7.7)	$\chi^2 = 17.03$***	PS > P,S
Assisted care living	51 (8.0)	41 (6.4)	49 (11.6)	40 (9.5)	57 (24.5)		$\chi^2 = 37.43$***	PS > P,S
Dental care	63 (9.9)	261 (41.0)	42 (10.0)	167 (39.7)	33 (14.2)	76 (32.6)	NS	
Trustee	38 (6.0)	77 (12.1)	44 (10.5)	73 (17.3)	33 (14.2)	21 (9.0)	$\chi^2 = 15.88$***	PS > P;P > S
Mobility service	24 (3.8)	68 (10.7)	23 (5.5)	52 (12.4)	10 (4.3)	21 (9.0)	N S	

[1] Variables sorted by total numbers of unmet need
[2] Based on overall chi-square tests (categorical variables), with pair-wise follow-up comparisons; *NS* non-significant; ** $p < 0.01$; *** $p < 0.001$

the conditions of life for long-term mentally disabled clients. However, it is unclear how the staff in psychiatric care and social services will judge clients' needs. To our knowledge, our study is the first to compare evaluations of staff members from the two different organizations and how they independently identified clients and assessed their needs of support and service.

In a defined population area 1,290 clients were identified according to the inclusion criteria. The calculated prevalence was 5.72/1,000 inhabitants, which may be too low since all clients may not have been identified. However, our prevalence rate corresponds well to the results from studies on similar clients (Halldin 1984; Widerlöv et al. 1997; Jansson et al. 2003). Three main findings were

Table 4 Needs of support in activities of daily living identified by professionals in psychiatric care and social service independently in the same clients (n = 233) . Pair-wise comparisons of total percentage agreement, Cohen's kappa and positive and negative decisions in agreement

Variables[1]	N	Psychiatric care providers reported needs of support n (%)	Social service providers reported needs of support n (%)	Total percentage agreement	Cohen's Kappa	p_{pos}[2]	p_{neg}[3]
Using public transportation	177	70 (39.5)	74 (41.8)	84	0.67***	0.81	0.87
Cleaning/washing	192	134 (69.8)	138 (71.9)	85	0.65***	0.90	0.75
To transport oneself	180	22 (12.2)	15 (8.3)	92	0.55***	0.59	0.95
Buying food	186	90 (48.4)	99 (53.2)	76	0.52***	0.76	0.75
Buying clothes	167	81 (48.5)	96 (57.5)	75	0.51***	0.77	0.74
Personal hygiene	196	81 (41.3)	81 (41.3)	76	0.50***	0.70	0.79
Preparing a meal	185	108 (58.4)	105 (56.8)	75	0.48***	0.78	0.70
Handling finances	172	109 (63.4)	118 (68.6)	73	0.39***	0.79	0.60
Taking medication	175	127 (72.6)	123 (70.3)	75	0.38***	0.82	0.56
Using a telephone	183	23 (12.6)	44 (24.0)**	81	0.37***	0.48	0.88
Contact public authorities	174	131 (75.3)	134 (77.0)	70	0.16*	0.80	0.36
Interpersonal skills	178	132 (74.2)	136 (76.4)	67	0.13	0.78	0.34

[1] Variables sorted by strength of agreement on the presence of a need of support (Cohen's kappa)
[2] Refers to agreement on the presence of a need of support
[3] Refers to agreement on the absence of a need of support
* P < 0.05; ** P < 0.007; *** P < 0.001

Table 5 Unmet needs of service provided by public health and social service sectors as identified by professionals in psychiatric care and social service independently in the same clients (n = 233) . Pair-wise comparisons of total percentage agreement, Cohen's kappa and positive and negative decisions of agreement

Variables[1]	N	Unmet needs reported by psychiatric care providers n (%)	Unmet needs reported by social service providers n (%)	Total percentage agreement	Cohen's Kappa	p_{pos}[2]	p_{neg}[3]
Assisted care living	185	41 (22.2)	30 (16.2)	84	0.50***	0.59	0.90
Job training	150	28 (18.7)	24 (16.0)	80	0.30***	0.42	0.88
Work	55	16 (29.1)	15 (27.3)	69	0.24***	0.45	0.78
Home help service	179	48 (26.8)	38 (21.2)	71	0.21**	0.40	0.81
Trustee	149	26 (17.5)	22 (14.8)	79	0.21**	0.33	0.87
Occupational rehabilitation	163	23 (14.1)	27 (16.6)	79	0.20**	0.32	0.88
Psychiatric care	182	48 (26.4)	34 (18.7)	71	0.19**	0.37	0.82
Social activities	167	100 (59.9)	114 (68.3)	61	0.15	0.69	0.45
Mobility service	166	6 (3.6)	5 (3.0)	95	0.15*	0.18	0.97
Scheduled activities	140	73 (52.1)	84 (60.0)	52	0.04	0.57	0.46
Dental care	61	12 (19.7)	10 (16.4)	71	0.00	0.18	0.82

[1] Variables sorted by strength of agreement on the presence of un unmet need (Cohen's kappa)
[2] Refers to agreement on the presence of an unmet need
[3] Refers to agreement on the absence of an unmet need
* P < 0.05; ** P < 0.01; *** P < 0.001

obtained in this study. First, the staffs from the psychiatric care and the social services only partly identified the same clients (18.1 %). In addition, clients identified by the staff from the psychiatric care only and from the social services only represented 49.3 % and 32.6 % of the sample, respectively. Second, clients identified by the staffs in both organizations had more needs of support and service. Third, the staffs in the psychiatric care and the social services demonstrated high agreement regarding the presence and type of needs, but poorer concurrence in pair-wise agreements at the individual level.

Our data, as well as those in other studies (Borgå et al. 1992; Middelboe et al. 2001), show that most of the clients were living alone and lived independently. A major part of the clients (63 %) had a disability pension, whereas relatively few had a salary or rehabilitation allowance (11 %).

The results demonstrate important differences between the groups identified by the organizations. Clients in the PS group seem to be more vulnerable than clients in the P and S groups. For instance, more than 50 % of the clients in the PS group had a diagnosis of schizophrenia and a disability pension. In addition, these clients had more needs of support in activities of daily

living, including interpersonal skills and contact with public authorities. The clients in the PS group also had more unmet needs of service, especially in social activities, scheduled activities, home help service, and assisted care living. From assessments using the CAN instrument in psychiatric care, it is well known that needs are frequent in clients with a diagnosis of schizophrenia (Slade et al. 1996, 1998; Hansson et al. 2001).

Higher age as well as schizophrenia was found to lead to a greater need of support. This observation is supported by a recent study on needs in elderly people with schizophrenia (McNulty et al. 2003). Clients in the S group were older than the other clients, which may partly explain some of their more frequent needs than the clients in the P group. The clients in the S group had a lower level of social functioning, including more frequently assisted care living. All clients in the S group had had contact with psychiatric care. Clients in the P group had a higher level of functioning than the other groups and more often a rehabilitation allowance. This difference in socio-demographic characteristics between clients in the P and S groups seemed to be a factor that influenced their needs of help and service. Clients in the P group differed from those in the PS group in that the former clients had fewer needs of support and fewer unmet needs of service.

Good agreement between the organizations was found in the assessment of number of needs of support and unmet needs of service. However, individual pair-wise agreement between staffs in psychiatric and social services was at a lower level. The kappa values were higher for needs of support than for unmet needs of service. Although some of the percentage agreements were relatively high, the kappa values were nevertheless low. The obvious contradiction with high agreement and low kappa values may be explained by the symmetrical imbalance in the marginal totals of the 2x2 concordance table that can convert a high agreement into a much smaller value of the kappa (Cicchetti and Feinstein 1990). However, there is no single omnibus index that will describe the evaluation assessment process satisfactorily. To provide a more complete description two separate indexes of proportionate agreement in the staffs' positive (p_{pos}) and negative (p_{neg}) decisions were calculated. This analysis indicated that there were frequently more positive decisions than negative decisions concerning the presence of a need of support. Concerning unmet needs of service, however, there was frequently more agreement on the absence of an unmet need. Accordingly, the kappa values were lower for unmet needs of service as compared with met needs of service. It seemed easier to identify a need as met than a need that was unmet. Differences in agreement between staffs in the two organizations may be due to varying perspectives on the assessment of their respective clients. The clients' unmet needs may fall outside the particular area of expertise of the staff, including a lack of knowledge of each professional area. Most variables are focused more on the social service sector and less on the psychiatric care sector. There might also be differences in how well the staff personnel knew their clients. One example of this phenomenon is the high frequency of the response alternative 'unknown' that was observed in certain domains such as work and dental care. It is crucial that one pays attention to these variables because otherwise an important unmet need of service may be lost. The results suggest that different perspectives must be complementary and therefore a combined unitary organization may be more optimal to help mentally disabled clients.

Limitations

One limitation of the study may be associated with the use of a non-established questionnaire. The reason for developing this questionnaire concerns our aim to investigate unmet needs of service provided by both the public health care and the community social service organizations. This is the first study to compare assessments of needs provided by staffs of both psychiatric care and social services. Earlier studies have focused on assessments done by staff and the clients themselves. Several studies have shown that staff and severely mentally ill patients differ in their assessments of need (Slade et al. 1996, 1998; Hansson et al. 2001). In a previous study (Jansson et al. 2003) the client perspective was analysed, showing that clients compared to staff in general reported fewer needs than the staff identified. In this study we found that staffs of psychiatric care and social services have reasonable agreement in evaluation of the number of needs, but differ in their pair-wise assessment of needs of support and unmet needs of service for the individual client.

Our population-based study on assessment of needs illustrates well the conditions of life of mentally disabled clients. The most urgent problems concern daily activities, where 60 % of the identified clients had no meaningful daily activity. There is accordingly a great need for support programs, particularly within areas of work, job training, occupational rehabilitation, and leisure time activities. Most important, however, are support programs for social and scheduled activities. Interaction and integration of programs between social services and psychiatric care are of central significance as a means to integrate the clients in society. For that purpose, a survey of the type used in the present study is necessary to be able to provide adequate care, service, and support in both psychiatric care and social services. It should be noted that our data are particularly relevant in such a welfare state as Sweden in which there exists a large public sector. In other countries non-governmental organizations may play an important role in this respect. However, fulfilling all the needs of the clients may be problematic due to economic consequences in relation to other political priorities.

Acknowledgments The study was funded by a grant from the County Council of Uppsala and the Psychiatric Center, Uppsala Uni-

versity Hospital. The authors would like to thank all staff members in both psychiatric care and social services who made this study possible.

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