Does Distance Matter? The Effects of Proximity to the Psychiatric Hospital on Psychiatric Service Use by Psychiatric Nursing Home Residents

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Abstract

Background: The number of psychiatric patients living in residential facilities in Germany continues to increase. Nevertheless, there is a lack of knowledge about the provision and adequacy of psychiatric care in residential facilities, so it is unclear whether the distance between residential and psychiatric service facilities has any effect on the psychiatric treatment of the residents.
Objectives: The main target of this study is the examination of the effects of the distance between psychiatric nursing homes and the psychiatric service facilities on the psychiatric treatment of the residents.
Method: The design of this investigation is cross-sectional and comparative. The sample was composed of the residents of two psychiatric nursing homes (n=76 resp. N=61). We investigated 20 variables by means of descriptive statistics, t-tests, chi-square-tests, and robust multivariate regression models. All analyses were conducted with STATA 12.
Results: Residents of assessed psychiatric nursing homes, the majority suffering from schizophrenia and under legal guardianship, were notably impaired. Ninety per cent received psychopharmacological treatment, 45% attempted suicide, and 19% were hospitalised within a year. There were only a few differences between assessed homes. Suicide attempts in the past were positively associated with more and longer present hospitalisations, psychiatric care costs and number of psychoactive drugs. Age was negatively associated with intensity of outpatient care and psychopharmacological treatment, but positively associated with number of drugs to treat physical diseases. Psychopharmacological treatment patterns were appropriate for the diagnoses.
Conclusions: Distance of assessed psychiatric nursing homes to psychiatric services hardly explains differences of care variables. Risk of suicide in a patient's history may better predict need of present hospitalisation than diagnosis, level of functioning or psychiatric impairment. The negative shift in treatment intensity of older residents has to be taken into account in order to avoid an age-related institutionalism effect. Psychopharmacological patterns found point to a rational implementation of prescriptions according to diagnoses (German J Psychiatry 2013; 16: 20-28).

Keywords: psychiatric nursing homes; hospitalisations in psychiatry; cumulative length of inpatient-stay; psychiatric care costs; ambulatory psychiatric care.

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Introduction

Despite years of efforts to deinstitutionalize psychiatric services, the number of psychiatric patients living in residential facilities in Germany is still increasing (Priebe et al., 2005; Priebe et al., 2008). The notion of 'home' is ambiguous and often used in a metaphorical way, closely related to concepts of house and dwelling. Dekkers (2011) argues from a phenomenological perspective that 'being human *is* dwelling'. Despite their importance, little attention has been paid to residential facilities for chronically mentally-ill people, except for homes for the elderly.

Some relevant large-scale studies about relationships between psychiatric homes and statutory changes have been published. In the USA there is evidence that the Nursing Home Reform Act embedded within the Omnibus Budget Reconciliation Act of 1987 (OBRA-87) has reduced the use of psychotropic drugs and physical restraints in long-term nursing facilities (Stoudemire &Smith, 1996; Lantz et al., 1996; Borson & Doane, 1997). German surveys of homes for the elderly demonstrate that neuropsychiatric symptoms in demented patients are not being treated in a syndrome-specific fashion (Uhrhan & Schaefer, 2010) and that the nursing home environment as well as ineffective communication between the various professional groups involved in medical treatment can lead to inappropriate or unintentional medication use (Majic et al., 2010). Investigations in nursing homes for the general population demonstrate, however, that a high level of untreated psychiatric symptoms often occurs together with non-indicated psychotropic polypharmacy or physical restraints (Rapp et al., 2010; Treusch et al., 2010; Meyer et al., 2009).

Residential facilities are often described in the literature as supervised houses, residential homes, long-term rehabilitation facilities, psychiatric homes or hostels, homes for the elderly, recovery homes and so on; these facilities reflect contemporary aspects of the de-institutionalization process and deserve more attention because the criteria for care quality are still unclear. A Delphi study by Turton et al. (2010) defines eleven broad domains of care important for recovery, later reduced to eight that could be key to service users' recovery: living conditions; interventions for schizophrenia; physical health; restraint and seclusion; staff training and support; therapeutic relationship; autonomy and service user involvement; clinical governance (Taylor et al., 2011). These quality indicators can be assessed by a toolkit (QuIRT) comprising 154 questions (Killaspy et al., 2011). Further investigations concern possible quality indicators like reduction of problematic behaviors and physical aggression (Trieman & Leff, 2002), criminal behavior and costs per person (Jason et al., 2008), care facility size (Jason et al., 2008; Segal & Sawyer, 1996), and time/use in care (Michelson & Teppermann, 2003) as well as physical measures influencing neuropsychiatric symptoms (Bicket et al., 2010). Canadian surveys about tertiary psychiatric residential facilities (Lesage et al., 2003; Lesage et al., 2008) conclude that the availability and efficient utilisation of residential resources partly determine the ability of comprehensive systems of care to avoid ever-shrinking acute care bed facilities by establishing benchmarks that guide the development of supervised residential settings to best meet the needs of the population of adults with severe and persistent mental disorders. A transnational survey comparing the Dutch UTOPIA study and the Italian PROGRESS study shows important differences in available residential beds despite similarities in disability among residents of both countries (de Heer-Wunderink, 2008).

Tseng et al. (2008) found that in Taiwan travel distance did not significantly account for lower readmission rates after an index admission but significantly explained the longer length of stay in psychiatric wards. The question of whether distance to psychiatric services influences admission frequency, length of inpatient-stay, drug prescription attitudes and costs has rarely been investigated.

In this investigation, we first intended to devise a clinical and psycho-social profile of residents living in psychiatric nursing homes in South-Germany on the basis of routine socio-demographic, clinical and economic variables assessed for all residents of two residential facilities.

Second, we compared the assessed residential facilities on the basis of the same variables in order to explore whether there are significant profile differences. We also compared the characteristics of hospitalised residents and those only receiving outpatient care for a full year in order to find out possible clinical differences between the groups.

Third, we explored possible relevant prognostic factors for hospitalisation variables, psycho-pharmacological treatment patterns and items of psychiatric care expenses (see Box 1).

Method

Setting description

All residents of assessed psychiatric nursing homes are in the charge of local general practitioners for the treatment of physical diseases and in that of the psychiatric outpatient clinic (POC) located in the regional psychiatric hospital. POC is an outreach team consisting of two psychiatric nurses, one psychologist and two senior psychiatrists working part-time. Principal tasks of POC are multidisciplinary care plan, psychological counselling, ward round every two weeks, taking of blood samples, drug monitoring, crisis intervention, referral to special therapists, teamwork with carers, collaboration with guardians and agencies. Patients were principally seen in PNH, not in the outpatient clinic at the hospital. All clinical records are included in patient history. Routine data are collected annually by means of a statewide form (AmBaDo). Psychiatric nursing homes show a resident:carer ratio about 1:4 or 1:5. The funding is provided under the Federal Welfare Act.

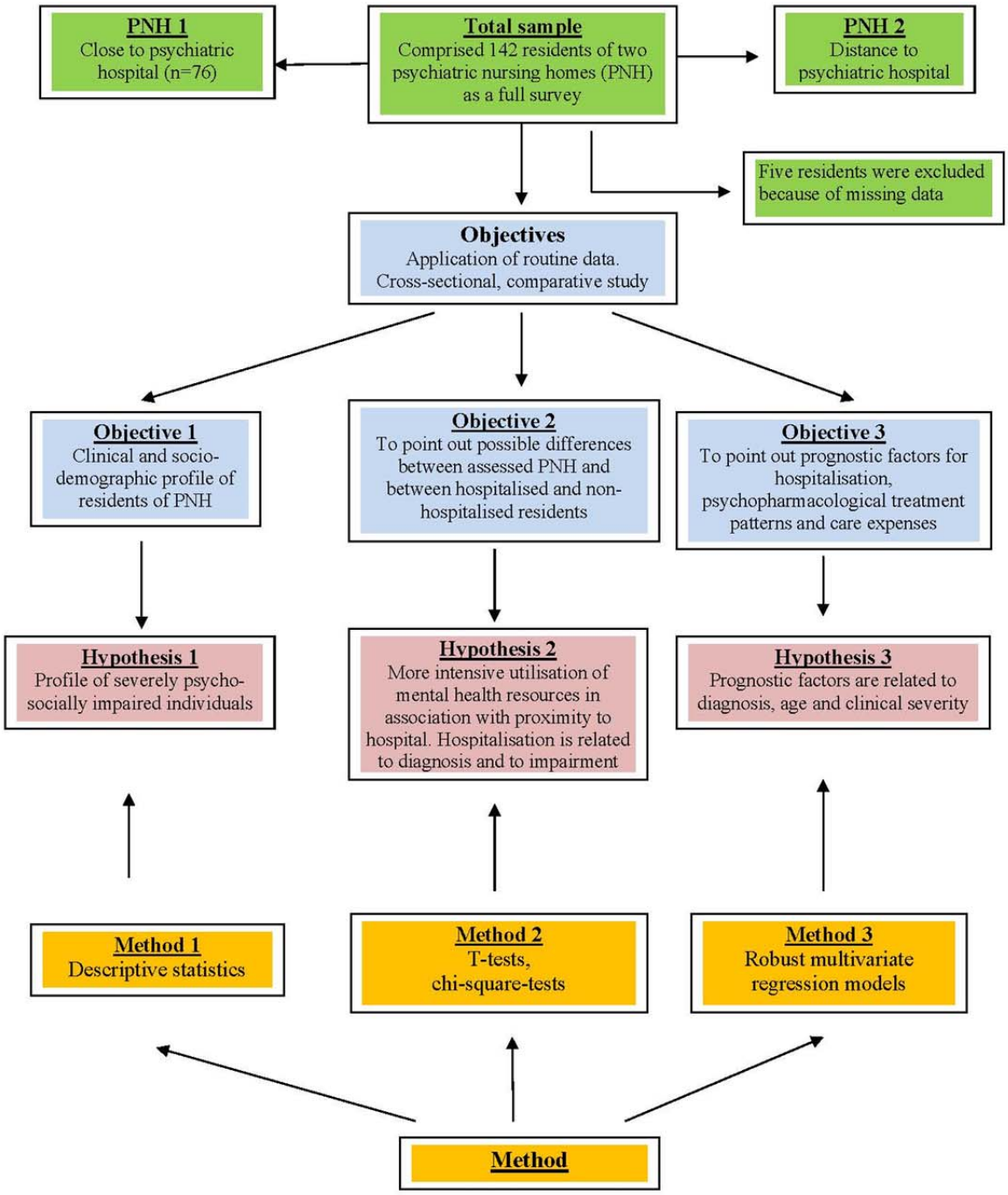

Figure 1. Study Design

Study sample

The sample consisted of 142 residents located in two different nursing homes. Nursing home 1 (NH1) was in a small town, had 76 residents and was located in the immediate neighbourhood of a psychiatric hospital which provides psychiatric in- and outpatient services for the residents. Nursing home 2 (NH2) was located in a rural area about 30 kilometres away from the psychiatric hospital and had 66 residents. All residents of the assessed psychiatric nursing homes suffered from major and persistent psychiatric disorders. Five patients were not included in this study because of missing data (see Box 1).

Assessed variables

The data sources of this investigation are routine administrative data provided by the German Hospital Administration and routine data from the Basic Psychiatric Documentation (BaDo) at federal state level, which have to be given to the health insurance agencies.

The following variables were assessed:

(1) Socio-demographic variables: age, gender, length of stay in psychiatric nursing home, and current legal guardianship.

(2) Clinical variables: psychiatric diagnosis according to main groups of ICD-10, Global Assessment of Functioning Scale (GAF), Clinical Global Impression (CGI), and suicide attempts in the past.

(3) Hospitalisation variables: number of annual psychiatric hospitalisations, and annual cumulative length of inpatient-stay in psychiatric wards.

(4) Pharmacological variables: total number of psychotropic drugs, total number of neuroleptics, total number of antidepressants, total number of mood stabilisers, and total number of drugs for treating physical illnesses.

(5) Economic variables: hospitalisation and outpatient treatment costs, psychopharmacological costs, and total treatment costs on an annual basis.

Statistics

Descriptive statistics includes mean and standard deviation for continuous variables and percentages for categorical variables. Assessment of group differences was carried out by means of t-tests (continuous variables) and chi-square tests (categorical variables). Associations between socio-demographic and clinical variables as regressors and hospitalisation, pharmacological and economic factors as dependent variables were computed by means of multivariate regression models to find possible predictors. We applied robust standard errors for the estimation of confidence intervals and significance tests of the regression coefficients (Box 1). All analyses were conducted with STATA 12.

Ethics

The present investigation is based on routine clinical records complying with medical standards in Germany and is not a clinical trial with a prospective design and implementation of additional screening instruments which require patient's consent. Residents' routine clinical and socio-demographic data were treated anonymously in statistical analyses.

Results

The assessed sample was on average 54.2 years old and 44% were women. The sample consisted of long-stay residents (average length of stay in home amounted to 9.22 years). Almost the whole sample was in current guardianship (94%) and almost half of the sample had attempted suicide at least once in the past. The level of functioning assessed by means of GAF was low (average score: 33), whereas psychiatric impairment assessed by means of CGI was high (average score: 6.9). The most frequent diagnosis was schizophrenia and schizoaffective disorders (70.4%), followed by mood (7.7%), organic mental (6.3%), substance abuse (5.6%) and personality (4.2%) disorders. Ninety per cent of residents received psychopharmacological treatment and 71% drugs to treat physical diseases; 80% took neuroleptics, 23% antidepressants, and also 23% mood stabilisers. Nineteen per cent of the sample was hospitalised at least once within the survey period; cumulative length of inpatient-stay amounted on average to 48.6 days and showed a wide dispersion of values (Vc=138%). Psychiatric treatment expenses amounted annually to 4,224 €, 14% of them for outpatient care and 86% for hospitalisation and psychopharmacological treatment (see Tables 1 and 2).

In a second step, we compared all residents' characteristics by means of t-tests. Residents of the psychiatric nursing home in the countryside (PNH2) showed higher hospitalisation as well as outpatient care costs, but lower psychopharmacological costs. They were younger and showed a significant higher level of functioning than PNH1. When they needed hospitalisation, cumulative length of inpatient-stay was lower. We did not find differences in total psychiatric treatment costs, average number of annual hospitalisations, psychiatric impairment or patterns of psychopharmacological treatment (see Table 1). Significant differences in diagnosis distribution were found, because more residents were suffering from schizophrenia in PNH2 and more residents were suffering from organic mental, substance abuse and mood disorders in PHN1 (Table 2).

In a third step, we also assessed by means of t-tests possible differences between the group of residents needing hospitalisation and those receiving only outpatient care. We did neither find significant differences for clinical variables and patterns of psychopharmacological treatment, nor for diagnosis distribution, gender, age or current guardianship. Total treatment expenses were self-evidently higher for hospitalised residents, but surprisingly ambulatory care costs as well (Tables 1 and 2), perhaps because of their more intensive

Table 1. Descriptive statistics of investigated continuous variables

	Total sample (n=137)		PNH 1 (n=76)		PNH 2 (n=61)		Differences PNH 1/ PNH 2 (t-tests)		Differences only ambulatory/ hospitalised (t-tests)	
	N	M (SD)	N	M (SD)	N	M (SD)	t	p	t	p
Average annual total treatment costs (€)	137	4,224 (8,741)	76	3,811 (4,909)	61	4,738 (11,940)	-0.61	0.539	**-8.19**	**<0.001**
Average annual inpatient treatment costs (€)	26	12,377 (16,711)	16	6,272 (6,725)	10	23,230 (23,365)	**-2.75**	**0.011**	-	-
Average annual outpatient treatment costs (€)	137	602(432)	76	496 (429)	61	734 (402)	**-3.32**	**0.001**	**-2.59**	**0.011**
Average annual psychopharmacological costs (€)	122	1,491 (1,808)	69	2,127 (2,146)	53	663 (590)	**4.82**	**<0.001**	-0.97	0.334
Average number of annual psychiatric hospitalisations	26	2.15 (1.87)	16	2.0 (2.03)	10	2.4 (1.64)	-0.52	0.606	-	-
Annual cumulative LOS in psychiatric wards (days)	26	48.6 (67.1)	16	25.5 (27.3)	10	85.6 (93.8)	**-2.43**	**0.023**	-	-
LOS in psychiatric nursing home (years)	137	9.22 (34.6)	76	12.9 (10.6)	61	11.3 (8.7)	0.98	0.329	0.36	0.721
Age	137	54.2 (13.5)	76	57.9 (12.9)	61	49.6 (12.9)	**3.75**	**<0.001**	0.58	0.560
GAF score	137	33.2 (9.4)	76	35.9 (10.4)	61	29.7 (6.4)	**4.09**	**<0.001**	0.08	0.933
CGI score	137	6.9 (0.9)	76	7.03 (0.99)	61	6.8 (0.7)	1.69	0.093	-1.04	0.298
Average number of psychopharmacological drugs	123	2.37 (1.10)	67	2.27 (1.07)	56	2.50 (1.14)	-1.16	0.249	-0.62	0.535
Average number of neuroleptics	110	1.58 (0.71)	56	1.52 (0.74)	54	1.65 (0.68)	-0.96	0.337	1.45	0.150
Average number of antidepressants	31	1.09 (0.30)	21	1.14 (0.36)	10	1.0 (0.0)	1.25	0.222	-0.30	0.763
Average number of mood stabilisers	32	1.09 (0.29)	23	1.08 (0.29)	9	1.11 (0.33)	-0.20	0.839	-1.39	0.175
Average number of drugs to treat medical conditions	98	3.09 (2.18)	62	3.35 (2.25)	36	2.64 (2.00)	1.58	0.118	-0.13	0.894

N=Sample size; M= Mean; SD= Standard deviation; t= t-value of T-distribution; p= Significance level. LOS= Length of stay. PNH1= Psychiatric nursing home close to psychiatric hospital (0, base-outcome); PNH2= Psychiatric nursing home distant from psychiatric hospital (1). Hospitalised residents (0), only ambulatory treated (1). Bold figures= level of significance for group differences <0.05

care needs; in this context, suicide attempts in clinical history were overrepresented in the group of residents needing hospitalisation (Table 2).

In a last step, we investigated possible prognostic factors for hospitalisation, pharmacological treatment patterns and expenses for different treatment items by means of robust multivariate regression models. No differences were found for the assessed psychiatric nursing homes with the exception of higher outpatient care and lower psychopharmacological costs for PNH2, as in the t-tests. Only suicide attempts in the past increased the likelihood of more hospitalisations and higher cumulative length of inpatient-stay (see Table 3). With regard to pharmacological treatment patterns, diagnosis of schizophrenia was positively associated with number of neuroleptics and negatively associated with number of antidepressants. Higher psychiatric impairment was positively associated with number of mood stabilisers. As expected, age was associated with number of drugs to treat physical diseases. Only the variable of at least one suicide attempt in the past was positively associated with total number of psychoactive drugs (see Table 4). With regard to expenses for psychiatric care, only suicide attempts in the past were positively associated with hospitalisation costs; suffering from a mental disorder other than schizophrenia or old age was negatively associated with psychopharmacological costs. In sum, total expenses for psychiatric care were positively associated with suicide risk and negatively associated with age (Table 5).

Table 2. Descriptive statistics for investigated categorical variables

	Total sample (n= 137)	PNH 1 (n=76)	PNH 2 (n=61)	Differences PNH 1/PNH 2 (chi-square)	Not hospi-talised (n=112)	Hospital-ised (n=25)	Differences not hosp./hosp. (chi-square)
Organic mental disorders	6.3%	12%	0%		8%	0%	
Substance abuse	5.6%	8%	3%		5%	8%	
Schizophrenia and schizoaffecti-ve disorders	70.4%	59%	83%	**Chi² (6) = 17.03 p= 0.009**	74%	64%	Chi² (6) = 9.09 p=0.168
Mood disorders	7.7%	12%	3%		5%	12%	
Post-traumatic stress disorders	2.1%	2.6%	1.5%		2%	4%	
Personality disor-ders	4.2%	2.6%	6%		3%	12%	
Mental retardation	3.5%	4%	3%		3%	0%	
Current legal guardianship	94%	92%	95%	Chi² (1) = 0.67; p = 0.414	95%	94%	Chi² (1) =0.26; p=0.610
Suicide attempt in past	45%	44.7 %	45.4%	Chi² (1) = 0.007 p= 0.932	37%	44%	**Chi² (1) = 12.26; p<0.001**
Women	44%	26%	65%	**Chi² (2) = 21.58; p<0.001**	46%	44%	Chi² (1) = 2.83; p=0.092

n=Sample size; Chi^2 (degrees of freedom); p= significance level; PNH1= Psychiatric nursing home close to psychiatric hospital (0: reference category); PNH2= Psychiatric nursing home distant from psychiatric hospital. Bold figures = level of significance of group differences <0.05

Discussion

This investigation is an explorative and comparative cross-sectional study which aimed to explore clinical, care and economic characteristics of residents living in two Bavarian psychiatric nursing homes. Possible relevant clinical and socio-demographic factors for hospitalisation, pharmacological treatment and care expenses were assessed by means of multivariate regression models.

Compared with the profile of all patients taken into care by the same outpatient service over the same period of time (Valdes-Stauber & Kilian, 2013), the assessed sample was older (54 vs. 50 years old), composed of fewer women (44% vs. 62%), showing a lower level of functioning (GAF-score: 33.2 vs. 47.3), and higher psychiatric impairment (CGI score: 6.9 vs. 5.9). The proportion of patients suffering from schizophrenia was notably higher (70% vs. 20%), similarly to the proportion of patients with at least one suicide attempt in the past (45% vs. 34%) and the proportion of patients under legal guardianship (94% vs. 22%). Average annual total treatment expenses were higher in psychiatric nursing homes (4,224 € vs. 3,575 €), whereas average hospitalisation and outpatient psychiatric care costs were similar in that psychopharmacological costs were notably higher (1,328 € vs. 801€). Therefore, it is fair to say that residents of psychiatric nursing homes are considerably impaired, probably because of suffering from severe and persistent mental disorders (average length of stay in PNH amounted to 9.22 years on average), especially schizophrenia. Leisse and Kallert (2003) found that patients with schizophrenia living in psychiatric nursing homes and staffed group homes exhibited a higher number of areas of need than those living in sheltered community residential care, alone or at home with their families. Care costs for residents of psychiatric nurse homes compared with those for the whole cohort of patients in charge of assessed outpatient clinic suggest that care intensity was similar.

There are only a few significant differences between the assessed PNH, and these almost disappear in multivariate regression analyses when control variables are added. Although the two groups are similarly impaired, residents of PNH1 near to the district psychiatric hospital show less intensive ambulatory health care utilisation but higher psychopharmacological costs. These results do not confirm the hypothesis that proximity to medical services induces a higher level of utilisation.

The group of residents who were hospitalised show unimportant differences from those who were not hospitalised. Risk of suicide assessed by suicide attempts in the past seems to be more strongly associated with the necessity for hospitalisation than diagnosis, impairment, age or pharmacological treatment patterns. Multivariate regression models confirm that individuals with suicide attempts in the past account for more admissions, more hospitalisation time and more psychiatric treatment expenses. Hence, risk of suicide may better predict health care utilisation than other clinical and socio-demographic variables.

Table 3. Multivariate regression model for hospitalisation variables. Robust multivariate regression analyses for two different psychiatric nursing homes with admission variables as dependent variables. Psychiatric nursing homes: PNH 1= close to psychiatric hospital (0= reference category), PNH 2= distant from psychiatric hospital (1). Diagnosis: 0=schizophrenia (reference category); 1=other diagnosis. Sex: 0=men, 1=women. Other dichotomous variables: 0= not given, 1=given. b= regression coefficient. p=level of significance of t-test. R^2 = fit of regression analysis as degree of explanation effect. N= number of observations in this model. Bold figures: p-value <0.05

Dependent variables	**Number annual admissions in psychiatric wards**		**Cumulative annual LOS in psychiatric wards**	
	b	**p**	**b**	**p**
Regressor: Psychiatric nursing home	0.07	0.690	7.94	0.214
Control variables				
Diagnosis	0.38	0.250	2.99	0.615
Sex	-0.40	0.056	-7.72	0.302
Age	-0.01	0.282	-0.41	0.116
Legal guardianship	-0.26	0.367	-7.61	0.319
Length of stay in nursing home	-0.004	0.633	-0.15	0.449
GAF score	-0.02	0.209	-0.33	0.340
CGI score	0.09	0.350	2.96	0.280
Suicide attempt in past	**0.64**	**0.001**	**16.2**	**0.006**
Constant	0.89	0.311	22.5	0.397
F / Prob > F	1,64 / 0.110		1,27 / 0.259	
R^2	0.16		0.13	
N	137		137	

The fact that older people receive fewer psychoactive drugs but more drugs to treat psychoactive diseases, as previously demonstrated in a longitudinal study (Valdes-Stauber & Kilian, 2011) may indicate an age-related treatment shift. The fact that they also receive less ambulatory care could be suggestive of a new form of institutionalism. On the other hand, individuals suffering from a diagnosis other than schizophrenia receive fewer neuroleptics but more antidepressants, whereas those with a higher level of psychiatric impairment receive more mood stabilisers; these results may indicate that the implementation of psychopharmacological treatment was conducted according to rational criteria.

The results of this investigation largely confirm our hypothesis about the disadvantageous psycho-social and clinical profile of residents of psychiatric nursing homes, as well as the existence of prognostic factors for hospital utilisation, psychiatric treatment patterns and care expenses. The hypothesis that proximity to health services may lead to a higher utilisation level was not confirmed in this investigation.

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Table 4. Multivariate regression models for pharmacological treatment patterns. Robust multivariate regression analyses for two different psychiatric nursing homes with five selected pharmacological variables as dependent variables. Nursing homes: NPH 1 close to psychiatric hospital (0= reference category), NPH2 distant from psychiatric hospital (1). Diagnosis: 0=schizophrenia (reference category); 1= other diagnosis. Sex: 0=men, 1=women. Other dichotomous variables: 0= not given, 1=given. b= regression coefficient. p= level of significance of t-test. R^2 = fit of regression analysis as degree of explanation effect. N= number of observations in this model. Bold figures: p-value <0.05.

Dependent variables	**Number neuroleptics**		**Number antidepressants**		**Number mood-stabilisers**		**Number psychoactive drugs**		**Number of drugs to treat physical diseases**	
	b	**p**	**b**	**p**	**b**	**p**	**b**	**p**	**b**	**p**
Regressor: Psychiatric nursing home	-0.11	0.450	-0.03	0.784	-0.07	0.423	0.04	0.889	-0.10	0.816
Control variables										
Diagnosis	**-1.01**	**<0.001**	**0.29**	**0.011**	0.19	0.063	-0.35	0.165	0.47	0.313
Sex	-1.43	0.287	0.02	0.842	0.006	0.949	-0.24	0.272	-0.54	0.211
Age	-0.01	0.081	<0.0001	0.928	-0.004	0.196	-0.02	0.065	**0.07**	**0.000**
Legal guardianship	0.37	0.101	0.18	0.200	0.10	0.425	0.48	0.263	0.71	0.340
Length of stay in psychiatric nursing home	-0.003	0.964	-0.002	0.615	0.001	0.787	-0.005	0.720	-0.02	0.384
GAF score	-0.02	0.059	0.008	0.181	0.006	0.218	-0.02	0.133	0.04	0.103
CGI score	-0.06	0.459	0.04	0.346	**0.13**	**0.010**	0.18	0.215	0.006	0.976
Suicide attempt in past	0.23	0.098	0.12	0.132	0.16	0.053	**0.51**	**0.014**	0.58	0.157
Constant	2.69	<0.0001	-0.59	0.213	-0.83	0.074	1.99	0.168	-3.29	0.125
F/ Prob > F	9.74 / <0.0001		1.97 / 0.048		2.33 / 0.018		3.42 / 0.0008		4.69 / <0.0001	
R^2	0.33		0.16		0.15		0.19		0.21	
N	137		137		137		137		137	

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Table 5. Multivariate regression models for psychiatric treatment costs Psychiatric nursing home: PNH 1=close to psychiatric hospital (0= reference category), Distant from psychiatric hospital (1). Diagnosis: 0= schizophrenia (reference category); 1= other diagnosis. Sex: 0=men, 1=women. Other dichotomous variables: 0= not given, 1=given. b= regression coefficient. R^2 = fit of regression analysis as degree of explanation effect. N= number of observations in model. p= level of significance of t-tests. Bold figures: p-value<0.05. Costs are in EUROs (€).

Dependent variables	**Annual inpatient treatment costs**		**Annual outpatient treatment costs**		**Annual psychopharmacological treatment costs**		**Total annual costs of psychiatric treatment**	
	b	**p**	**b**	**p**	**b**	**p**	**b**	**p**
Regressor: *Psychiatric nursing home*	1,910	0.221	**133**	**0.048**	**-1,765**	**<0.001**	233	0.885
Control variables								
Diagnosis	755	0.606	-25	0.773	**-886**	**0.019**	-239	0.877
Sex	-1,866	0.311	53	0.413	23.7	0.929	-1,837	0.322
Age	-101	0.114	**-12.2**	**<0.001**	**-35.4**	**0.005**	**-146**	**0.023**
Legal guardianship	-1,887	0.315	**144**	**0.029**	207	0.782	1,484	0.541
Length of stay in psychiatric nursing home	-36.5	0.468	3.82	0.255	18.1	0.357	-16.5	0.762
GAF score	-81	0.338	-1.29	0.711	7.43	0.686	-74.5	0.399
CGI score	740	0.273	**122**	**0.015**	335	0.073	1,191	0.101
Suicide attempt in past	**4,010**	**0.006**	**171**	**0.006**	173	0.513	**4,288**	**0.004**
Constant	5,464	0.403	130	0.740	1,214	0.449	6,824	0.314
F / Prob > F	1.29 / 0.248		6.22 / <0.0001		4.54 / <0.0001		2.16 / 0.029	
R^2	0.13		0.30		0.26		0.15	
N	137		137		137		137	