

Inequalities in the Use of Services Provided by Psychiatrists in Spain: A Multilevel Study

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Objective: The objective was to identify individual or contextual inequalities in visits to psychiatrists in Spain, a country with a regionalized health care system and variable integration of mental health and primary care. **Methods:** This cross-sectional study used data for the non-institutionalized population from the 2006 Spanish Health Interview Survey (N=29,478). A score of ≥ 3 on the General Health Questionnaire represented a need for mental health care. The probability of having visited a psychiatrist in the previous four weeks was analyzed in relation to individual-level variables (age, social class, health insurance, and country of origin) and contextual socioeconomic variables (Gross Domestic Product; a measure of income equality; and characteristics of regional mental health systems, such as human resources, services, and organization). Multilevel logistic regression models were used. **Results:** A total of 161 individuals (.55% of the sample) reported a visit to a psychiatrist during the previous four weeks. Individuals age 65 and older and immigrants from low-income countries were less likely to report a visit. Visits to psychiatrists were more common in regions with higher rates of psychiatrists per hospital (odds ratio [OR]=1.47, 95% confidence interval [CI]=1.18–1.83), more human resources for mental health (OR=1.03, CI=1.01–1.06), and better integration of primary care and specialized mental health care (OR=1.90, CI=1.32–2.76). **Conclusions:** Individual and contextual inequalities in use of psychiatrists' services exist in Spain. Better coordination between primary and mental health care and greater availability of mental health resources were associated with greater use. Policies seeking better integration of care should be promoted. (*Psychiatric Services* 64:901–907, 2013; doi: 10.1176/appi.ps.201100419)

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Mental disorders are a public health problem with significant impact in terms of dependency, disability, morbidity, and economic cost (1–3). Despite the high prevalence of mental disorders and their negative impact on public health in most countries, most mental disorders are not prevented or diagnosed at the early stages, most go untreated, and access to mental health care is considered insufficient (4,5). Persons in socioeconomically disadvantaged regions have higher rates of psychiatric morbidity and greater mental health care needs, but they have poorer access to care (6,7). Low socioeconomic status, being over age 60, being male (3,8–12), and being an immigrant (13–15) are associated with not receiving mental health treatment.

In 1986, Spain established a National Health System (NHS), which is primarily funded by general taxation, provides universal coverage, and is decentralized to Spain's 17 Autonomous Communities (ACs) (16). Established under the Spanish constitution in 1978, ACs are territorial entities that are equipped with autonomous legislative and executive powers and have populations ranging from about 300,000 (La Rioja) to nearly 8.5 million (Andalusia). The ACs have different organizational models of and different levels of funding for mental health care.

Access to Spain's health care system is universal, but individuals may also purchase supplemental private

health insurance (17). Although there is little inequality in access to primary health care, individuals who have supplemental insurance are more likely than those without it to make use of medical specialists (17,18). Therefore, individuals without supplemental private health insurance and those of lower socioeconomic status have greater difficulty accessing specialized mental health care.

The primary health care system in Spain is the first point of contact with the NHS and coordinates the various levels of service (19). Primary health care is responsible for prevention and promotion of activities and counseling in mental health. It is also responsible for the detection, diagnosis, and treatment of mental disorders, mainly anxiety and depression. When the ability of primary care providers to solve problems has been exceeded, patients are referred to mental health services. Specialized mental health care includes clinical diagnosis and monitoring of mental disorders; pharmacotherapy; individual, group, and family psychotherapy; electroconvulsive therapy; and, if necessary, hospitalization. Some of the difficulties affecting the provision of care for mental health problems in primary health care are insufficient mental health training among family physicians, excess demand for services, and the short duration of consultations (20).

The goal of psychiatric reform in Spain in the early 1970s was to close psychiatric hospitals. Under the banner of “deinstitutionalization,” this professional movement involved the progressive replacement of psychiatric hospitals with community mental health services (21,22). However, a recent appraisal indicated that the historical development of community-based mental health services is insufficient to meet the needs of the Spanish population (21).

Variability between ACs in the organization of mental health care can represent a positive response to varying needs; however, it can also generate inequalities in expenditure, access, and utilization (22). The *World Health Organization Atlas of Mental Health* highlights the fact that data on mental health expenditure are not

available for all of Spain’s ACs (23). However, the limited data available suggest that levels of funding for mental health in Spain are low compared with many of the 15 European Union countries. For example, Spain has four, two, and four psychiatrists, psychologists, and psychiatric nurses per 10,000 population, respectively, whereas Sweden has 20, 76, and 32. These striking differences illustrate the wide range of levels of mental health service provision among European countries (23).

More efficient coordination between primary and specialized mental health care has been found to be associated with better mental health care and outcomes in several countries (20,24–27). In Spain, two models of coordination between primary care and specialized mental health care coexist: the referral model, in which primary care and specialized mental health care work separately, and the liaison model, in which specialized mental health care staff work alongside and give support to primary care professionals (20). The level of coordination between primary and specialized care is lower in the referral model and higher in the liaison model.

Several studies have reported inequalities in the distribution of mental health resources between ACs, such as the number of mental health professionals per inhabitant, the budget allocated specifically for mental health (21,27,28), and access to mental health resources (9,29). These studies have found that the use of mental health services is generally higher in northern ACs than in southern ACs (9,29). Differences between ACs in the use of ambulatory mental health care are attributable to unequal staff resources (9).

Inequalities associated with the use of mental health services in Spain have been studied only at the individual level (3,5,8,9), and there is a dearth of information about the potential association between individual and contextual variables and inequalities in the use of mental health services. Spain’s decentralized deployment of mental health services, which involves budgetary and policy differences between ACs, provides an opportunity to compare different

policies. Moreover, the multilevel method also permits consideration of regional and individual socioeconomic variables.

The main hypothesis of this study was that individual and contextual inequalities that are independent of patients’ needs exist in the use of psychiatrist services. At the individual level, low socioeconomic status, being over age 60, being male (3,8–12), and being an immigrant (13–15) have all been shown to be associated with a lower likelihood of visiting a psychiatrist. Research has also shown that individuals without supplemental private insurance and persons employed in manual-labor jobs make fewer visits to a specialist (17,18), and probably also to a psychiatrist, than those with supplemental private insurance or of higher socioeconomic status. At the contextual level, it was hypothesized that individuals who live in ACs with better socioeconomic indicators, such as high gross domestic product (GDP), would be more likely to visit a psychiatrist. Inequalities between ACs in the distribution of mental health resources (21,27–29) are likely to generate inequalities in psychiatrist utilization, independently of patients’ needs. Similarly, differences between ACs in the organization of mental health services (27) and in the model of integration between primary care and specialized mental health care are also expected to generate inequalities in access to and use of these services.

Therefore, the objective of this study was to analyze individual and contextual inequalities in use of psychiatrists’ services in Spain, a country with a regionalized health care system and variable integration of primary care and mental health care.

Methods

This was a cross-sectional study, analyzing individual data collected in the 2006 Spanish Health Interview Survey (SHIS) and contextual data from Spain’s 17 ACs.

Study population, sample, and data collection

The study population was the non-institutionalized population (individuals living at home) of Spain who participated in the 2006 SHIS. The

survey followed a multiple-stage, stratified sampling design, with representative samples of the 17 ACs. The first-stage units were census tracts. The second-stage units were family households, and within each household an adult (aged ≥ 16 years) was selected to complete the questionnaire. The selected sample included approximately 31,300 households in 2,236 census tracts. Ninety-six percent of the theoretical sample was interviewed. A total of 29,478 individuals age ≥ 16 years were interviewed. Data were collected through face-to-face interviews at home between June 2006 and June 2007 (30).

Dependent variable

The dependent variable was a self-reported visit to a psychiatrist in the previous four weeks (yes or no).

Independent variables

Individual variables. The explanatory individual-level variables were sex; age (16–34, 35–64, and ≥ 65); social class, assigned according to the highest occupation in the household (respondent, partner, or person with the highest salary in the household) and grouped into manual-labor and non-manual-labor classes, according to the widely used Spanish adaptation of the British Register General Classification (31); health insurance coverage, classified as public only or public with supplemental private health insurance (public and private); country of birth, categorized as high-income countries (including Spain and other European Union countries) or low-income countries (those with a United Nations Development Program human development index $< .9$); and need for mental health care, which was assessed with the 12-item version of the General Health Questionnaire (GHQ-12), a screening tool used to detect symptoms of current psychological distress and for which a cutoff of ≥ 3 points has been proposed (32,33) to identify individuals with psychological distress. The GHQ-12 score was used to control for need of health services. [Individuals born in the European Union, apart from Spain, and in other high-income countries were grouped together because they had characteristics similar to those of Spanish

nationals and represented just 2% of the sample.]

Contextual variables. GDP refers to the market value of all final goods and services produced in a country in a given period and is often expressed as GDP per capita for comparative purposes (Spain's index is 100). Data for 2009 were obtained via the Social Observatory of Spain (www.observatoriosocial.org/ose/index.html), which in turn obtained data from the National Statistics Institute.

The Gini coefficient is a measure of income equality (34). Zero corresponds to perfect income equality, and 100 corresponds to perfect income inequality. The source of information was the 2006 Salary Structure Survey, and data were obtained via the Social Observatory of Spain (www.observatoriosocial.org/ose/index.html). Mental health care services provided by ACs.

Data on the number of psychiatrists, psychologists, and psychiatric nurses working in public mental health care services in 2009 per 100,000 inhabitants were obtained for each AC from the Observatory of Mental Health (www.observatorio-aen.es). Data on the number of psychiatrists working in hospitals per 100,000 inhabitants during 2000–2004 were obtained from the work of Medel and Sarria (28). Data on the number of beds available for psychiatric patients in settings other than psychiatric hospitals per 10,000 inhabitants during the period 2000–2004 were obtained from Medel and Sarria (28). ACs were classified according to whether they operated specific funding regimens for mental health services (no, partial, and yes), with 2010 data obtained from the Observatory of Mental Health. According to the description of AC mental health plans (20) and data from the Observatory of Mental Health, there are two models of coordination between primary care and specialized mental care: referral and liaison. The level of coordination is lower in the referral model and higher in the liaison model.

Data analysis

First, we performed a descriptive analysis of the sample, including a summary of the proportion of individuals

who visited a psychiatrist, stratified by individual characteristics; we tested for differences between strata by using the chi square test. Second, we performed an ecological analysis to describe the distribution of contextual variables and the proportion of individuals who visited a psychiatrist in each of the 17 ACs. The distributions of the contextual variables (quartiles) were expressed cartographically.

Finally, we performed a multilevel logistic regression analysis to obtain accurate estimations of fixed effects (usual regression coefficients or odds ratio [OR]) and the standard errors, while taking the clustered structure of the data (in both individual and regional terms, or level 1 and level 2, respectively) into account to obtain accurate estimations of fixed effects (usual regression coefficients or ORs and the standard errors). Multilevel analysis provided estimations of variability between regions via the random component of the model. A four-step sequential modeling strategy was adopted (35). An unconditional or empty model contained no predictors at either level but included a random intercept to test whether significant variability (τ^2) existed between regions. An individual model was a simple extension of the empty model, which included individual characteristics. Separate contextual models consisted of an extension of the individual model to include only one contextual variable (ten models), in order to analyze associations with contextual variables. The multilevel model included all individual and contextual variables. To measure variability between regions, both the intraclass correlation coefficient from the unconditional model and the proportional change in variance (τ^2) between these four nested models were calculated (35).

All analyses included weights derived from the complex sample design (36). The estimation method involved penalized quasi-likelihood second-order approximation procedures. All statistical analyses were conducted using Stata, version 10.1 and HLM 6.02 (37).

The study was approved by the Clinical Research Ethics Committee at CEIC-Parc de Salut Mar. All participants provided written informed consent.

Table 1

Characteristics of 29,478 respondents to the 2006 Spanish Health Interview Survey who reported having visited a psychiatrist in the month before the interview

Characteristic	Total sample		Reported a visit to a psychiatrist		p
	N	%	N	%	
Visit to a psychiatrist			161	.55	
Sex					.48
Men	14,459	49.0	72	.50	
Women	15,019	51.0	89	.59	
Age (years)					.001
16–34	9,665	32.8	38	.39	
35–64	14,094	47.8	110	.78	
≥65	5,718	19.4	13	.22*	
Social class					.23
Nonmanual labor	11,665	4.4	59	.51	
Manual labor	17,240	59.6	99	.57	
Insurance coverage					.97
Public	23,439	8.1	128	.54	
Public and private	5,831	19.9	32	.55	
Country of origin					.05
High income	26,375	89.7	159	.60	
Low income	3,022	1.3	2	.06*	
GHQ-12 ^a					.001
Negative	21,704	78.5	31	.14	
Positive	5,938	21.5	119	2.01*	

^a 12-item General Health Questionnaire. A positive score (≥3 points) indicated the presence of psychological distress.

*p<.01

Results

The proportion of individuals who visited a psychiatrist (.55%, N=161) is shown in Table 1. Individuals most likely to have visited a psychiatrist were those ages 35 to 64 years (.8%, p<.001) and those with GHQ-12

scores indicating a need for mental health care (2.0%, p<.001). Immigrants from low-income countries were less likely to have visited a psychiatrist (.06%, p<.055). No significant differences in the proportion of visits were observed as a function

of social class or health insurance coverage.

We observed significant differences between ACs in the utilization of psychiatrists, with the proportion of visits ranging from .15% to .96% (Table 2). We also observed differences between the ACs in the distribution of contextual variables. GDP per capita varied between 72.3 and 133.7, with respect to the national GDP of 100. The Gini coefficient varied between 28.7 and 38.1. The level of human resources dedicated to mental health services, including psychiatrists, psychologists, and psychiatric nurses, showed more variation than did the number of psychiatrists working in hospitals. In relation to specific funding for mental health, eight ACs (47%) did not have a specific budget, five (29%) had only a partial budget, and four (24%) had specific funding for mental health. The most frequent model of coordination between primary care and specialized mental health care was the liaison model, which was operated in 12 ACs (77%); the referral model was used in five ACs (24%). [Maps illustrating the variation in psychiatrist visits and in the other variables are included in an online data supplement to this article.]

The results of the multilevel analysis of psychiatrist visits are shown in Table 3. In the first model, age less than 65, high-income country of origin, and positive GHQ-12 score predicted more frequent visits to a psychiatrist. The second model included all individual variables along with each contextual variable. Space limitations do not permit description of the results for individual variables; only the variability explained by the contextual variables is described. Differences were found between models 2 and 3 because the variables included in these model were not the same. The frequency of psychiatrist visits was higher in ACs that used the liaison model and in those with a larger number of psychiatrists working in hospitals. In the third model, more psychiatrist visits were observed in ACs with greater human resources for mental health (OR=1.03), more psychiatrists working in hospitals (OR=1.47), and better coordination

Table 2

Distribution of contextual variables across 17 Autonomous Communities in Spain

Variable	Minimum	Maximum	Percentile		
			25th	50th	75th
Psychiatric visit	.15	.96	.34	.59	.71
Socioeconomic					
Gross Domestic Product per capita ^a	72.3	133.7	86.3	97.9	133.7
Gini coefficient ^b	28.7	38.1	29.4	3.4	31.7
Human resources in mental health per 10,000 population					
N of personnel ^c	3.4	34.7	16.1	18.1	23.8
N of psychiatrists in hospitals	3.5	7.6	4.5	5.4	5.8
N of psychiatric beds in other settings per 1,000 population	.4	2.9	.6	.9	2.9

^a Spain index=100

^b A measure of income equality, where 0=perfect equality and 100=perfect inequality

^c Psychiatrists, psychologists, and psychiatric nurses

Table 3Regression models of predictors of a reported psychiatric visit among respondents to the 2006 Spanish Health Interview Survey^a

Variable	Model 1: all individual variables		Model 2: individual plus each contextual variable			Model 3: individual plus contextual variables	
	OR	95% CI	OR	95% CI	Random effects σ	OR	95% CI
Individual							
Women (reference: men)	1.00	.66–1.53				1.00	.66–1.55
Age (reference: ≥ 65)							
16–34	2.48*	1.42–4.33				2.51*	1.45–4.35
35–64	4.80*	2.99–7.72				4.85*	3.03–7.76
Social class: manual labor (reference: not manual labor)	1.10	.64–1.89				1.12	.66–1.92
Insurance: public and private (reference: public only)	1.09	.57–2.07				1.00	.51–1.98
Country of origin: low income (reference: high income)	.09*	.03–.29				.09*	.03–.27
Positive GHQ-12 screen (reference: negative) ^b	16.20*	9.63–27.2				16.20*	9.64–27.4
Contextual (socioeconomic)							
Gross Domestic Product			1.00	.99–1.02	.132*		
Gini coefficient ^c			1.07	.94–1.20	.135*	1.06	.99–1.12
Mental health							
Human resources							
N of personnel ^d			.99	.96–1.02	.141*	1.03*	1.01–1.06
N of psychiatrists in hospitals			1.29*	1.05–1.58	.017*	1.47*	1.18–1.83
N of psychiatric beds in other settings			1.15	.79–1.68	.156*		
Organization							
Liaison coordination model (reference: referral model)			1.68*	.98–2.89	.119*	1.90*	1.32–2.76
Specific mental health funding (reference: no)							
Partial			.69	.34–1.40	.119*		
Yes			1.20	.71–2.05	.119*		

^a Model 1: $\tau^2=.13042$, $p=.005$; model 3: $\tau^2=.00005$, $p=.04$. Proportional change in variance for models 1 and 3=99%^b 12-item General Health Questionnaire. A score of ≥ 3 points (positive score) was taken to indicate the presence of psychological distress.^c A measure of income equality^d Psychiatrists, psychologists, and psychiatric nurses* $p<.01$

between primary and specialized mental health care (OR=1.90). At the individual level, persons younger than 65 years (16–34 years, OR=2.51; 35–64 years, OR=4.85) and those with a GHQ-12 score indicating need for mental health services (OR=16.2) were more likely to have visited a psychiatrist in the previous month. Moreover, immigrants from low-income countries were less likely to have visited a psychiatrist (OR=.09). In models 1 and 3, age, country of origin, GHQ-12 score, level of human resources (number of psychiatrists, psychologists, and psychiatric nurses), number of psychiatrists working in hospitals per inhabitant, and coordination between primary care and specialized mental health care were all associated with a greater likelihood of

having visited a psychiatrist. In terms of visits to a psychiatrist, the variability explained by individual and contextual variables between model 1 ($\tau^2=.13042$, $p=.005$) and model 3 ($\tau^2=.00005$, $p<.001$) was 99%.

Discussion

We observed individual and contextual inequalities in use of psychiatrists' services, independent of patients' need, which confirmed many aspects of the hypothesis of this study. Older individuals (≥ 65 years) and immigrants from low-income countries were less likely to report psychiatrist visits. Regional contextual variables, such as having more human resources for mental health care (psychiatrists, psychologists, and psychiatric nurses), more psychiatrists working in hospitals, and

better coordination between primary care and specialized mental health care were associated with a greater probability of having visited a psychiatrist. A large proportion of variability in the use of psychiatrists' services was explained by the individual and contextual variables included in the final model.

At the individual level, younger people were more likely to have visited a psychiatrist, which is consistent with the results of other studies (9–11). Unmet need for treatment is greater in traditionally underserved groups, including the elderly population and racial-ethnic minority groups (10). Our results are similar to those of studies conducted in other countries that examined individual-level socio-demographic variables and that found

that the most vulnerable groups had the greatest need for mental health care as well as the least access (3,7,10,13,38,39). Moreover, immigrants from low-income countries were unlikely to visit a psychiatrist, even though Spain's health system has universal access, a finding that is also consistent with the results of previous studies (14,15). These lower rates of use may reflect cultural and linguistic barriers to care (14), stigmatization of people with mental illness in the culture of origin (40), or discrimination against immigrants in Spain, including immigrants' lack of trust in the system (41). However, our initial hypothesis that inequalities would be associated with health insurance and social class was not supported by our results. Individuals whose GHQ-12 scores indicated a need for mental health services were more likely to report having seen a psychiatrist, which is in line with previous reports (11,12).

We found that the proportion of individuals who reported having visited a psychiatrist was higher in ACs with more resources for mental health care. These results confirm that the unequal distribution of resources between ACs (21,27,28) creates inequality in levels of access to a psychiatrist, independently of patients' needs. An important goal of Spain's psychiatric reform is to increase mental health resources at the community level. From the results of this study, it can be concluded that differences between ACs in the distribution of mental health resources are associated with inequalities in access to psychiatrists. These inequalities have several possible explanations, including lack of resources, which results in long waiting lists, and patients' fear that they would not be able to obtain timely care and that they would not be seen by a specialist even if they went to a hospital.

The results of this study confirm the hypothesis that differences between ACs in the organization of mental health care plans (27) and in the integration model of primary care and specialized mental health care generate inequalities between ACs. A larger proportion of individuals reported having visited a psychiatrist in ACs that adopted the liaison model rather than the referral model; in the

liaison model, primary care and specialized mental health care are better coordinated. It has been reported that integration of these two levels of care can increase the quality of care, facilitate access to specialized mental health care (24–26), improve trust between patient and provider, and increase patients' confidence that they will receive high-quality attention from a mental health specialist. Our findings suggest that coordination between primary and specialized mental health care is an example of best practice in mental health policy. Spanish ACs that do not currently adhere to this policy may benefit from adopting it in order to improve access and utilization of mental health services among low-income groups. This recommendation seems particularly timely given the austerity cuts in health services that the country is currently experiencing.

Some studies have shown that socioeconomically deprived populations tend to have greater need for mental health care (40) but poorer access (7). However, in terms of use of psychiatrists' services, variables associated with availability of mental health professionals and integration between primary and specialized mental care were more important in our study than individual and other contextual socioeconomic variables.

This study had several limitations. First, for the dependent variable, psychiatrist visits were recorded in the short period of only four weeks before the interview, which may explain the low proportion of visits. Second, the information collected was restricted to psychiatrist visits only, whereas a need for mental health care can be satisfied through access to other health professionals, such as psychologists or, more commonly, general practitioners. Psychologist visits were not considered in our study; visits to a general practitioner were included, although the specific reason for the visit was not recorded.

The main strength of our study was its comparison of regions (ACs) with different economic conditions, mental health care plans, and human and budgetary resources for mental health care. Our results indicated that certain characteristics of a region's mental

health network were associated with use of psychiatrists. The diversity between ACs generated inequalities, and identification of variables that explain inequalities between ACs in use of services could aid the development of strategies for reducing inequalities. These results can serve as a blueprint for other countries that are exploring characteristics of mental health service networks that facilitate access to psychiatrists.

Conclusions

Our findings provide evidence of social inequalities associated with the use of psychiatrists' services in Spain. The most vulnerable groups, such as elderly people and immigrants, were noted to have greater need but poorer access. The results highlight the need to develop mental health policies that specifically target the most vulnerable groups in the Spanish population (42).

Our results showed inequality between Spanish ACs in access to psychiatric care. The proportion of individuals who had visited a psychiatrist was higher in ACs that used the liaison referral model, in which primary and specialized mental health care are better integrated. Future studies could evaluate the proportion of visits for mental health problems in various levels of care—primary, specialized, and hospital care—and differences between ACs in the adequacy of treatment.

Moreover, greater availability of human resources for mental health, such as psychiatrists, psychologists, psychiatric nurses, and other mental health professionals, and greater availability of community-based mental health services were associated with a larger proportion of the population visiting a psychiatrist.

Possible solutions for reducing these inequalities may include the development of specific mental health policies for more vulnerable groups, the implementation of referral models with better integration between primary and specialized mental health care, and increases in the availability of mental health professionals.

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