

The Mental Health Care Delivery System in Greece: Regional Variation and Socioeconomic Correlates

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Abstract

Background: In Greece, the functional capacity of the mental health care system until 1980, was totally inadequate to meet the increasing mental health needs of the population and to provide efficient and community-based services. This situation was brought to the attention of the Commission of European Communities and a special EEC Regulation No 815/84 provided the financial technical support for an extended psychiatric reform programme. The psychiatric reform programme initiated in 1984 and ended in 1995.

Aims of the study: This study compared the geographical distribution of neuropsychiatrists and the mental health care delivery system structural components (psychiatric beds, extramural mental health units and places in rehabilitation services), according to the regional socioeconomic development for the years 1984, 1990 and 1996. Additionally the possible effects of the operation of community-based mental health services on the psychiatric hospitalizations were examined.

Methods: Data on the geographical distribution of neuropsychiatrists in the previously mentioned years were drawn from local Medical Association from each of 54 prefectures of the country. The corresponding distribution of the mental health care delivery system components was made available from the database of the Monitoring and Evaluation of Mental Health Services Unit. Pearson product moment correlations of the regional distribution of neuropsychiatrists and the various components of the mental health care system, as population-based ratios, with the corresponding socioeconomic development in the form of the general index of development were performed. Mental hospital age standardized rates were collected from the Hospital Central Register for the periods 1984–1987 and 1990–1993. Discharge rates were elaborated according to the existence of mental health services in specific regions.

Results: A wide regional variation in neuropsychiatrists per 100 000 population was found in all three years, with the majority of them working in the greater Athens and Thessaloniki areas. In the geographical distribution of health regions, there is an uneven significant decrease in psychiatric beds between 1984 and 1996. However in almost all regions an increase in extramural services between the two critical periods was noticed, as part of the implementation of the psychiatric reform programme. A parallel and more dramatic increase in the places of rehabilitation in 12 out of 13 regions has been observed during the implementation of the reform programme. At the level of prefectures, the changes

across time, in the mean ratios of beds, extramural services and rehabilitation places were not found to be significant.

A significant decrease of discharges in prefectures covered by newly established extramural services for the period 1990–1993, compared to discharge rates during the period 1984–1987, when none of these services were in operation in these prefectures, was noticed.

The intercorrelation matrix between the various mean values (1990–1996) of the mental health care system components in the 54 prefectures and the local general index of development scores produced statistically significant correlation coefficients. It seems that the greater the level of local socioeconomic development the higher the degree of mental health care delivery system growth.

Discussion: Our results have shown uneven regional distribution of neuropsychiatrists, as well as extramural mental health units and rehabilitation places, despite the current reorganization of the whole mental health care delivery system. The positive correlation between the various structural components of the system in the 54 prefectures and the local socioeconomic conditions could be interpreted as follows. Urban areas of higher socioeconomic growth had a long history of development of inpatient services in mental hospitals. In these several community-based alternatives have been established for their transformation into modern ones. Urban areas exhibit also higher psychiatric morbidity and therefore increasing mental health needs. Additionally in several cities local University Psychiatric Departments have developed a variety of mental health and rehabilitation services. Many new services highly specialized and complementary to existing mental hospitals were established in urban areas. Rural areas are mostly uncovered by mental health care facilities. However it seems that the establishment of community-based services could have an effect on mental hospital utilization.

Conclusion: It becomes evident that after the implementation of the psychiatric reform programme in Greece significant progress in the areas of decentralization of mental health and rehabilitation services has been observed. However there are still areas in many prefectures, mainly rural or semirural, lacking the appropriate delivery of mental health care.

Implications for health care and policy formulation: Our results suggest that flexible models of services should be introduced for the benefit of population living in areas lacking the necessary socioeconomic resources.

Implications for future research: Mental health services research in Greece should focus on quasi-experimental studies on the effectiveness of various models of mental health care in areas of different socioeconomic growth. Copyright © 1999 John Wiley & Sons, Ltd.

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Introduction

The geographical distribution of psychiatrists and mental health personnel, as well as the regional variation in mental health care system structural components, are receiving a great deal of attention by policy makers, research scientists and governmental officials.¹⁻⁹ A wide variation in the geographical distribution of psychiatrists and mental health manpower was reported by several investigators.^{3-5,9} A common finding was the abundance of psychiatrists in urban areas or in areas of higher socioeconomic development.^{5,9} The uneven distribution of community-based mental health care and rehabilitation services in different geographical locations has also been the subject of analysis.^{7,8,10}

In the case of Greece, psychiatric care until 1980 was based on nine overcrowded anachronistic public mental hospitals and 40 private ones, both categories of settings inadequately staffed with a lack of rehabilitation programmes.¹¹

The public mental health care delivery system had the following characteristics: (1) centralization of psychiatric care with an absence of community mental health services and of psychiatric beds in general hospitals; (2) uneven regional distribution of services in the country, leaving some regions without access to psychiatric care, and (3) inefficient management of resources and lack of qualified administrative staff.¹¹⁻¹⁴

The functional capacity of this type of mental health care system was totally inadequate to meet the psychiatric morbidity needs of the population, as revealed in several cross-sectional studies.¹⁵⁻¹⁸ This situation of the mental health scene in Greece was brought to the attention of the Commission of European Communities and the Greek government undertook to review the psychiatric care system by developing a five-year plan.^{13,18,19} As part of the response to the request of the Greek government for financial support of the five-year plan, EEC Regulation 815/84 was adopted in March 1984 and provided a grant of 120 million ECU.^{20,21}

The strategic objective of this five-year plan were as follows:

- decentralization of mental health services through the establishment of a network of prevention-oriented services in the community or in general hospitals;
- deinstitutionalization of long-stay patients in the mental hospitals through the provision of alternative care including residential facilities and rehabilitation services;
- training of mental health personnel in new models of care.^{20,21}

The proposed five-year plan extended beyond the five-year period and covered the period January 1984 to July 1995. The total number of projects implemented were 161 comprising 203 actions, 65% being concerned with the infrastructure of mental health services, 30% being pilot and 5% being training projects.

In 1996, 388 new psychiatric settings including psychiatric departments in general hospitals, community mental health centres, outpatient departments, day hospitals, day care

centres, child guidance clinics, short stay and crisis units, residential facilities, vocational rehabilitation services and cooperatives were in operation nationwide.²² These settings have been established in various geographical regions of Greece, in order to meet the local mental health needs. A total of 121 of new services are located in the greater Athens area.

The purpose of this study was to compare the geographical distribution of psychiatrists, neuropsychiatrists and the mental health care delivery system structural components (psychiatric beds, extramural mental health services and rehabilitation places) for the years of 1984-1996 when the psychiatric reform programme was implemented. Greece presents a great deal of interest for social scientists, policy makers and clinical epidemiologists, due to extreme regional socioeconomic differences in development.²³

More specifically the following questions to be answered were formulated.

- (1) Has there been any change in the geographical distribution of psychiatrists and neuropsychiatrists in the country?
- (2) Was there any improvement in the uneven geographical distribution of the mental health delivery system structural components (psychiatric beds, extramural mental health services and rehabilitation services) in the years of 1984-1996 when the psychiatric reform programme was implemented?
- (3) Are there any correlations of local indices of urbanization process and socioeconomic development and the population based ratios of neuropsychiatrists and the structural components of mental health care system in the 54 prefectures of the country?
- (4) Has there been any effect of the psychiatric reform programme on the mental hospital discharges for the period 1984-1993?

Material and Methods

The Setting

Greece is situated in the south of the Balkan peninsula, projecting into the Mediterranean Sea, and many surrounding islands. The total area of the country is 131944 km²; in the 1981 census the total population was found to be 9740151 of whom 3027331 lived in the greater Athens area. In the 1991 census the total population increased to 10259900 of whom 3530000 live in the Athens metropolitan area. The majority of the population (59.0%) live in urban areas and the rest (41.0%) in semi-urban and rural areas.

The social security system covers 95% of the population for illness disablement and old age retirement. In 1990 infant mortality rate per 1000 live births was 9.7 and the expectation of life at birth was 74.5 years for males and 79.3 years for females. The four leading causes of death in 1995 were cardiovascular disease, malignant neoplasms, cerebrovascular and respiratory diseases.

The country has an administrative regionalisation of 54

prefectures (Nomos) and 13 regions. Each region consists of several prefectures. It should be noted that in the majority of regions, the main cities of prefectures are not far from the capitals of each region.

The public mental health sector contains the nine public mental hospitals, the psychiatric units in general hospitals and the community-based mental health services.

The private sector comprises only inpatient care delivered through the 40 private mental hospitals.

Design

Data on the geographical distribution in urban, semi-urban and rural areas of psychiatrists, neurologists–psychiatrists and child psychiatrists (neuropsychiatrists), working either in the public or in the private sector, were drawn from the records of the official medical associations from each of 54 prefectures for the years of 1984, 1990 and 1996.

A comparative analysis is also made in order to outline the changes over the last 13 years (1984–1996) in the mental health care delivery system due to the implementation of the Regulation 815/84 Programme B initiated in 1984. Information for the years 1984, 1990 and 1996 on the geographical distribution of psychiatric beds (both public and private and in general hospitals) extramural mental health services (psychiatric units in general hospitals, community mental health centres and outpatient departments) and places in psychosocial services was derived from the database of the Monitoring and Evaluation of Mental Health Services Unit of the Athens University Mental Health Research Institute. The database serves also as the official source of information for the Ministry of Health and Welfare Department of Mental Health. Population ratios of the mental health care settings in each prefecture were based on the local population (censuses 1981, 1991). In addition data on the regional distribution of public mental health personnel per 100000 population working either in public mental hospitals or in community-based mental health services, in 1990 and 1996, were drawn from the same database. Personnel working in the private inpatient sector are excluded. These two years were selected because the first extramural services, through the psychiatric reform programme, have been established since 1988.

According to the formulation of the third of our hypotheses the urbanization process and regional socioeconomic development could have an impact on the evolution of psychiatric care.

Urbanization index was produced by the quotient of percentage change in urban areas by percentage change in rural and semi-rural areas between 1971 and 1991.

The regional socioeconomic development is reflected in the general index of development (GID). This index is composed of four groups of indicators related to (a) population growth, (b) local infrastructure e.g. network of roads, transportation, health care delivery, (c) economic well-being e.g. electric power consumption, availability of telephone and tv sets per population unit, (d) economic

productivity. The construction of these indicators was based on data covering the period 1981–1991.²³

Finally the effects of the reform programme on the mental hospital (public and private) discharges of psychiatric patients for the period 1984–1987 and 1990–1993 are presented in the form of mean age standardized discharge rates per 100000 population of patients living in prefectures according to the existence of mental health services for the periods 1984–1987, when the psychiatric reform had just been initiated, and for the years 1990–1993. The year 1993 was selected as the last study year due to a recent law on confidentiality imposing constraints in the selection of patient data regarding the most recent years. Discharges were drawn from the Central Health Register for hospital discharges. This register is based only on discharges and not on hospital first admissions.

Statistical Analysis

Pearson product moment correlations of psychiatrists and mental health personnel and the various components of mental health care system (in the form of mean values of 1990–1996 population ratios) with the degree of mean scores (1990–1996) of urbanism and the GID scores, in each of 54 prefectures, were performed.

Statistical analysis was made possible by the application of the Statistical Package for Social Sciences.²⁴

Results

Table 1 contains the regional distribution of neuropsychiatrists per 100000 population in urban, semi-urban and rural areas in the years 1984, 1990 and 1996. It is evident that in all these years almost all neuropsychiatrists are working in urban areas and the vast majority of them in the regions of Attica and central Macedonia where the great Athens area and the city of Thessaloniki are located respectively. In the Southern Aegean region most psychiatrists are working in semi-urban areas due to the location of the Leros mental hospital in this area. Between 1984 and 1996 increasing changes in the number of neuropsychiatrists took place. The greatest increase was observed in the regions of central and western Greece, respectively, and the lowest in the region of Thessaly.

The regional distribution of psychiatric beds per 1000 population, extramural services and rehabilitation places per 100000 population and the corresponding GID score for each region for the years 1984, 1990 and 1996 are shown in **Table 2**. Ratios were based on the total population of each region.

In 1984, just before the initiation of the reform programme, two regions were totally uncovered by inpatient services. There were very few extramural services, mainly in the form of outpatient clinics, and almost none in the area of psychosocial rehabilitation. In 1990, the picture has changed. The number of psychiatric beds per 1000 population were decreased in all regions with one exception of that in Western Greece region, and the number of extramural and

Table 1. Regional distribution of neuropsychiatrists per 100000 population in urban/semi-urban and rural areas (1984, 1990, 1996)

Regions		% population	Neuropsychiatrists/100000 pop.			% Change 1984–1996
			1984	1990	1996	
1. Eastern Macedonia/Thrace	U	38.7	2.3	6.6	9.1	+291.4
	SU	17.6	—	—	—	—
	R	43.9	—	—	—	—
2. Central Macedonia (Greater Thessaloniki)	U	34.2	8.5	9.3	20.0	+145.0
	SU	18.7	—	—	0.9	—
	R	47.1	—	—	—	—
3. Western Macedonia	U	24.8	2.1	5.2	6.8	+217.2
	SU	15.8	—	—	—	—
	R	40.6	—	—	—	—
4. Epirus	U	24.2	3.4	7.3	10.9	+220.6
	SU	9.0	—	—	—	—
	R	66.8	—	—	—	—
5. Thessaly	U	2.2	3.6	5.3	6.8	+88.8
	SU	14.6	—	—	—	—
	R	43.2	—	—	—	—
6. Ionian islands	U	20.2	5.5	5.7	8.0	+45.5
	SU	14.6	—	—	0.9	—
	R	65.2	—	—	—	—
7. Western Greece	U	38.1	1.5	5.3	6.9	+359.2
	SU	13.6	—	—	—	—
	R	48.3	—	—	—	—
8. Central Greece	U	251.1	1.3	4.2	6.2	+376.9
	SU	29.5	—	0.8	0.8	—
	R	45.4	—	—	—	—
9. Attica (Greater Athens)	U	58.1	12.9	17.0	24.7	+100.9
	SU	11.6	—	—	—	—
	R	30.3	—	—	—	—
10. Peloponissos	U	22.9	1.38	2.90	4.1	+199.3
	SU	16.5	—	—	—	—
	R	60.6	—	—	—	—
11. Northern Aegean	U	27.8	2.3	2.6	4.5	+89.0
	SU	18.5	—	—	—	—
	R	53.7	—	—	—	—
12. Southern Aegean	U	32.7	—	—	0.4	+108.4
	SU	20.7	2.40	3.9	5.0	—
	R	46.6	—	—	—	—
13. Crete	U	38.1	2.78	5.40	8.90	+220.1
	SU	11.8	—	—	—	—
	R	50.1	—	—	—	—
Total			6.6	10.5	15.4	+130.9

U: urban areas.

SU: semi-urban areas.

R: rural areas.

rehabilitation services substantially increased. In 1996, the total number of psychiatric beds dropped to 0.96/1000 population. Extramural services were increased in all regions but in higher levels in regions of higher socioeconomic development. Places in psychosocial rehabilitation were increased in higher numbers than in the year 1990. However in one region, namely Western Macedonia, there were no rehabilitation places available.

The comparison between the years 1990 and 1996 of the

regional distribution of mental health personnel per 100000 population (excluding neuropsychiatrists) working in community-based psychiatric services (public sector) revealed a rather uneven increase in their number (data not shown). For the total in the country, 41.2 and 55.0 mental health personnel per 100000 population were staff members of community-based psychiatric services in 1990 and 1996, respectively. In the regions of Attica, Central Macedonia and Thessaly the population ratios of mental health personnel

Table 2. Changes in the regional distribution of beds^a, extramural services and psychosocial rehabilitation places ratios^b (1984–1996)

Health regions	GID	1984			1990			1996			1984–1996 ± % change		
		Beds/ 1000 pop.	Extramural services/ 100000 pop.	Rehab. places/ 100000 pop.	Beds/ 1000 pop.	Extramural services/ 100000 pop.	Rehab. places/ 100000 pop.	Beds/ 1000 pop.	Extramural services/ 100000 pop.	Rehab. places/ 100000 pop.	Beds	Extramural services	Rehab. places
1. Thrace/East Macedonia	89.1 (7.5)	0.35	2.01	6.95	0.37	4.83	14.95	0.28	6.81	23.40	-20.0	+24.0	+238.4
2. Central Macedonia	87.0 (15.8)	1.28	1.33	1.40	0.90	2.32	15.66	1.10	6.24	48.11	-14.0	+376.9	+3335.7
3. Western Macedonia	82.0 (15.8)	0.97	0.71	—	0.97	1.00	—	0.01	2.00	—	-98.9	+185.7	—
4. Epirus	73.6 (6.8)	0.09	0.68	—	0.06	1.20	9.80	0.09	4.43	56.75	—	+633.3	—
5. Thessaly	79.6 (12.6)	0.86	0.60	—	0.98	1.22	16.51	1.05	3.18	36.36	-22.1	+416.7	—
6. Ionian islands	73.7 (6.8)	2.74	1.61	—	1.92	2.15	60.20	1.83	5.79	105.43	-32.2	+162.5	—
7. Western Greece	75.8 (17.5)	0.8	0.63	3.05	—	0.75	19.00	0.45	11.91	29.63	+150.0	+333.4	+870.5
8. Central Greece	80.0 (11.9)	—	0.41	—	—	1.31	2.77	—	4.30	20.00	—	+975.0	—
9. Attica	126.7 (2.5)	2.03	1.37	19.00	1.72	1.75	44.58	1.36	5.40	58.77	-33.0	+315.4	+208.9
10. Peloponnissos	75.6 (8.90)	0.90	0.90	6.9	0.76	1.00	18.74	0.55	2.93	40.75	-38.8	+222.3	+489.8
11. Northern Aegean islands	71.1 (7.0)	—	1.70	15.33	—	2.34	15.45	—	4.00	24.64	—	+135.3	+60.7
12. Southern Aegean islands	95.4 (20.5)	4.70	1.52	—	4.54	1.25	21.43	2.79	18.05	74.22	-42.2	+1100.0	—
13. Crete	79.9 (7.5)	1.13	0.88	3.98	0.91	2.00	25.83	0.86	5.00	63.00	-23.8	+625.0	+148.9
Total	83.8 (13.3)	1.38	1.05	8.18	1.13	1.80	21.80	0.96	5.23	47.34	-30.4	+370.0	+491.2

^aBeds in public and private mental hospitals.

^bRatios were based on the total population of each region.

were found to be 71.5 and 63.0 per 100000 respectively. These figures are the highest among all regions. Certain other regions in central and southern Greece present low personnel–population ratios, ranging from 12/100000 in Peloponissos to 25/100000 in the Aegean islands for the year 1996. In 1990, these figures were found to be even lower.

However psychiatric personnel in the nine public mental hospitals increased, from 19 persons per 100 beds in 1984, to 45 per 100 beds in 1996. The highest increase was observed in the Leros mental hospital, from 35 to 300 persons per 100 beds in the years 1984 and 1996 respectively. This enormous increase of personnel was a result of several intensive interventions by nine teams for the deinstitutionalization of the Leros hospital inmates.

The level of integration of psychiatrists in the primary health care, for the period 1984–1996, was found to be inadequate. In 1996 there were only 40 visiting psychiatrists working in 55 out of 178 rural health centres.

The Pearson product moment intercorrelation matrix in the 54 prefectures, of the mean (1990–1996) ratios of extramural mental health services psychiatric beds, rehabilitation places neuropsychiatrists and mental health personnel with mean (1990–1996) scores of the GID of each prefecture, provided statistically significant correlation coefficients (Table 3).

Mental health personnel was positively correlated with the number of psychiatric beds and rehabilitation places.

Finally, in Table 4, the mean annual age-standardized discharge rates per 100000 population of patients discharged from public and private mental hospitals, nationwide, in the prefectures, according to the existence of mental health services for the periods 1984–1987 and 1990–1993, are shown. The period 1984–1987 is considered as the initial ‘weak’ part of the psychiatric implementation process while the other period (1990–1996) was proven to be the dynamic era.

The changes in the mean age-standardized discharge rates between the two periods, for the first two row panels were small, but quite large for the last panel. It appears that in the 19 prefectures with no mental health services for the period 1984–1987, but with a variety of mental health services established after the implementation of psychiatric reform (1990–1996) the discharges from all mental hospitals in the years 1990–1993 were less than those in 1984–1987.

Table 4. Mean annual age-standardized discharge rates per 100000 population, of patients discharged from public and private mental hospitals, nationwide, in prefectures according to the local existence of mental health services for the periods 1984–1987 and 1990–1993

Period	Prefectures	N	Mean discharge rates/100000 pop.
1984–1987	With no mental health services	21	186.3 ± 71.1
1990–1993	With no mental health services	21	165.0 ± 78.9
1984–1987	With mental health services	11	210.0 ± 82.1
1990–1993	With mental health services	11	191.4 ± 116.7
1984–1987	With no mental health services	19	277.5 ± 102.6
1990–1993	With newly developed mental health services	19	198.3 ± 72.2

Discussion

Research on the geographical location of neuropsychiatrists as well as the structural components of the mental health care delivery system in various countries revealed uneven distributions and a significant abundance in urban areas.^{3–5,7–10}

Among the main factors predicting the regional distribution of both the professionals and the services, is the local level of socioeconomic development.^{3–5,7–10} In the socially disadvantaged areas the patients are treated in mental hospitals due to the lack of alternatives to mental hospital treatment.^{7,8,25}

In the case of Greece, despite the current reorganization of the whole mental health care delivery system towards a more decentralized form and the continuous board certification of new psychiatrists and mental health professionals, e.g. psychologists, social workers, occupational therapists, there are still serious problems in several prefectures of some regions, related to the inadequate number of local mental health staff and services. Our results showing uneven geographical distribution, at the level of prefectures, of neuropsychiatrists, extramural mental health units, psychiatric

Table 3. Pearson product moment intercorrelation matrix: neuropsychiatrists, mental health personnel, extramural units, psychiatric beds, rehabilitation places, urbanism and the GID in the 51 prefectures (mean values 1990–1996)

	1	2	3	4	5	6
1. Urbanism (urbanization index)	1.00					
2. GID	0.67**	1.00				
3. Neuropsychiatrists/100000 pop.	0.53**	0.60**	1.00			
4. Extramural mental health units/100000 pop.	0.58**	0.65**	0.63	1.00		
5. Psychiatric beds/1000 pop.	0.40*	0.42**	0.38**	0.26*	1.00	
6. Rehab. places/100000 pop.	0.14	0.41*	0.38**	0.33*	0.58**	1.00
7. Public mental health personnel/100000 pop.	0.15	0.12	0.14	0.12	0.46**	0.50**

* $P < 0.05$.

** $P < 0.01$.

beds and rehabilitation places are compatible with the findings previously reported.^{3-5,7-10} However between 1984–1990 and 1996 increasing trends in the number of neuropsychiatrists have been observed in all regions. The greatest increase was noticed in the regions of central and western Greece where there were very few neuropsychiatrists working in 1984. It should be noted that despite these increasing trends the majority of neuropsychiatrists are working in urban areas in almost all regions.

For Greek psychiatrists, urban areas are mostly preferable for a professional career for a number of reasons. In the cities higher levels of psychiatric morbidity were found and therefore help-seeking is likely to be more frequent than in rural areas.¹⁵⁻¹⁷ In addition cultural barriers in help-seeking behaviour are less than in rural areas and the local economic conditions do not put constraints on the private practice of psychiatry.^{17,26} The positive correlation coefficient between psychiatrists/mean population ratios and the level of urbanism and the scores of the GID in the 54 prefectures of the country for the period 1990–1996 confirmed this assumption.

The basic goal of decentralization of mental health services through the establishment in all regions of community-based extramural services, and places in rehabilitation services, has been partially achieved. All regions are covered by extramural services in 1996. There is still one region lacking the appropriate places of rehabilitation. An geographically uneven decrease in psychiatric beds between 1984 and 1996 is also observed. At the level of health regions an almost equal percentage increase in extramural services between the two critical periods was noticed, as part of the implementation of the psychiatric reform programme. A parallel and more dramatic increase in the places of rehabilitation in 11 out of 13 regions took place during the same period. The highest percentage increase has been observed in the southern regions due to the Leros mental hospital special actions I and II.^{18,22}

With respect to the impact of socioenvironmental factors on the development of the mental health care system in Greece, for the period 1990–1996, a positive correlation was found between the various structural components of the system, in the 54 prefectures, with the local level of urbanism as well as the socioeconomic conditions. The correlation could be interpreted as follows. In the prefectures with a high degree of urbanism, the corresponding levels of socioeconomic development and psychosocial resources were also high. In these areas mental health needs of the population were proven to be greater than in the other areas.¹⁵⁻¹⁷

Urbanization has long been linked with high mental health utilization and proliferation of services^{26,27} as well as the accessibility of alternative mental health services.²⁸ A series of psychiatric epidemiological general population surveys carried out in Greece nationwide have shown the prevalence of higher psychiatric morbidity rates in urban areas than in other areas^{16,29} and high frequency of help-seeking behaviour.¹⁷

In addition urban areas of higher socioeconomic growth had a long history of development of psychiatric services,

mainly mental health hospitals and outpatient psychiatric departments. In these mental hospitals a number of community-based mental health care alternatives have been established for their transformation into modern institutions. In some other cases lobbying, with strong political support, was fruitful and resulted in the development of more services in urban centres. It should be noted that in several cities, local universities with psychiatric departments and a variety of mental health services have been established, attracting mental health professionals. In fact the number of mental health personnel was only positively correlated with the number of existing psychiatric beds and rehabilitation places.

On the other hand, there are still many areas in several prefectures, mainly rural, uncovered by mental health services, where there should be in operation at least mobile units or small dispensaries connected with the nearest psychiatric departments. The limited number of psychiatrists working in rural health centres is totally inadequate to meet the local needs. With regard to mental health services research in rural areas, Sommers²⁶ examined the relationship between geographical location and use of mental health services. The results of this study did not support the assumption that rural residence had a uniformly negative effect on psychiatric service utilization and suggest that models of service use must be carefully specified. It is of note that the few prefectures lacking the appropriate full organization of mental health care were even more than half of the country before 1984, when the implementation of the EEC Regulation 815/84 was initiated.²¹

Finally the possible impact of the implementation of the psychiatric reform programme (1984–1995) on mental hospital utilization in the area of discharges of psychiatric patients was explored. The significant decrease of discharges and consequently of admissions in mental hospitals in those prefectures with newly established extramural psychiatric services raises the question of the effectiveness of alternative services to prevent unnecessary mental hospital admissions.^{30,31} Data on the length of mental hospital stay confirm the possibility for a patient admitted in one year to be discharged in the same year.²² In the prefectures with preexisting psychiatric services (mainly mental hospitals) to the psychiatric reform programme, total discharges of patients (single and total) were less for the period 1990–1993 than for the years 1984–1987, but not at a significant level when the reform program had been initiated. The acceleration of deinstitutionalization of long-stay patients after the year of 1989, in all public mental hospitals of the country, provides a possible explanation for this.

To conclude it becomes evident that during the implementation of the psychiatric reform programme (1984–1985) significant progress has been observed, in the areas of decentralization of psychiatric services and the establishment of psychosocial rehabilitation facilities. Regional differences in the functioning capacity of the mental health care delivery system have been minimized, although urban areas are still prevailing in the establishment of mental health services. The development of the various types of mental health care service is reflected in the specific indicators presented. It is

widely accepted that the Regulation (EEC) 815/84 Programme B, in spite of the various difficulties encountered in its implementation, has contributed decisively to the change of the mental health scene in Greece. However, there are still many efforts to be made towards the proliferation of flexible mental health care units in rural and semi-rural areas at the prefecture level to meet the unmet needs of the local population.

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