

FIRST ADMISSIONS TO PSYCHIATRIC FACILITIES IN BRAZIL, 1960-1974¹

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The data analyzed in this article show that first admissions to Brazil's psychiatric facilities per 100,000 people rose in 1960-1970, as did the number of psychiatric beds. The significance of these findings are discussed in terms of cultural considerations and the organization of psychiatric care services in Brazil.

Introduction

The usefulness of hospital statistics in psychiatric epidemiology is now well-established. The influence of selective factors, reviewed by Terris (1965), renders such statistics useless for estimating the incidence or prevalence of psychiatric problems. Nevertheless, they are of value in evaluating and planning mental health services (Wing, 1973), because analysis of hospital data can provide valuable knowledge about such things as the character of the population served, the types of health contacts made, the pattern of these contacts, and the extent to which mental health services are available. Hospital statistics can also help to identify groups at high risk of hospitalization, and they have been used as a source of baseline data for studying diagnostic practices (Kramer, 1961 and 1969).

Most of the epidemiologic literature connected with the application of hospital statistics to planning has derived from investigations carried out in the United States or United Kingdom. Such data have been collected in Brazil, but they have not been systematically analyzed; and the studies done so far have failed to influence government planning in the field of mental health care. The discussions at the First Brazilian Congress of

Psychiatry on the theme "Mental Health and Psychiatric Care in Brazil" provide a good illustration of this point (Martins, 1971). Therefore, to date the delivery of psychiatric care in Brazil has depended on political considerations, the profit motive, or (more often) a combination of the two, rather than conscious analysis of the population's prevailing disease patterns.

The study reported here provides an epidemiologic analysis of first admissions to psychiatric facilities in Brazil for the period 1960-1974. This analysis was done in order to identify population groups with high hospitalization rates and to provide useful planning data. It is hoped that this will provide the basis for a series of subsequent projects that will systematically analyze the available data on mental disorders in Brazil.

Background

Geographic and Social Factors

Brazil, the largest country in South America, has an area of 8,511,965 km² and occupies 47 per cent of the South American land mass. As of 1970 it had a population of 93,139,037 inhabitants (56 per cent urban and 44 per cent rural) that was concentrated heavily in the coastal areas and that constituted 34 per cent of the South American population (Brazil, 1972b).

More than half (about 60 per cent) of the population is White and of European ancestry, the remainder being composed of Blacks (15

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per cent), and Mestizos (25 per cent) (Martins, 1971). The country was colonized by the Portuguese, who brought the Blacks from Africa as slaves. Some of the later migratory waves that contributed to the population's present racial and ethnic makeup have come from Portugal, Italy, Germany, and Japan.

The country, a federal union of twenty-two states, four territories, and one federal district, is divided into five major regions with different economic, social, and geographic features. In general, economic development has tended to favor the Southeast Region, which currently accounts for 42 per cent of the country's people, 70 per cent of the psychiatric beds, and 78 per cent of the industrial output.³ As of 1974, the number of psychiatric beds available in each region per 100,000 inhabitants⁴ was as follows: North: 17; Northeast: 44; Central-West: 47; South: 54; Southeast: 137.

This unbalanced growth—and uneven distribution of wealth—has encouraged an important tide of ongoing migration from the less developed rural areas of the Northeast Region to the big cities (Rio de Janeiro and São Paulo) of the industrialized and relatively rich Southeast.

The migrant's dreams of a better life can rarely be fulfilled, however. Uneducated and unskilled, the migrant cannot compete with the local population for the more technical and better-paid jobs. The result is a low-paying job, life in a shantytown on the city's outskirts, the experience of being uprooted, and a general state of social deprivation. This situation, which is also found in many other Latin American nations (Leon, 1972), can only serve to raise the country's already high rate of mental disorders and social problems.

Psychiatric Care

In Brazil, psychiatric care can be obtained either privately or from the Government.

Care provided by the Government is delivered in two ways: through the National Institute of Social Welfare Medical Assistance (*Instituto Nacional de Assistência Médica da Previdência Social*—INAMPS) or through state or federally funded hospitals and outpatient clinics.

The INAMPS delivers medical assistance through a national health insurance system covering 80 per cent of the Brazilian population. In 1973, 97 per cent of the money expended by INAMPS for psychiatric care went to pay for hospital costs. Outpatient departments got the remaining 3 per cent (Brazil, 1978). The budget for fiscal year 1981 has been allocated in substantially the same proportions (Treiger, 1981).

This disproportionately large expenditure on inpatient care occurs because of the country's prevailing philosophy about psychiatric care, which emphasizes hospitalization, and because INAMPS does not maintain its own psychiatric hospitals. Inpatient care is therefore provided by contracting for beds in private hospitals. As a result, of the 320 mental hospitals operating in the country in 1978, 272 were under a total or partial contract with INAMPS;⁵ and 46 per cent of all available psychiatric beds were INAMPS-contracted beds. This contractual system encourages the organization of psychiatric hospitals as profit-making enterprises—with several consequent distortions in the use of psychiatric beds. Among these, there tends to be an increase in the total number of admissions, due mainly to a high rate of hospitalization of neurotics and alcoholics and an increase in the average length of hospitalization (Sequeira and Carmo, 1971).

The remaining 54 per cent of the country's psychiatric beds are maintained either by the federal or state governments or by private hospitals. The private beds are in small clinics and are used by relatively high-income groups. Most of the federal and state beds are in big, understaffed, overcrowded hospitals

³Calculated by the author with data from Brazil, IBGE, 1976 (see References).

⁴Calculated by the author with data from Brazil, IBGE, 1972b and 1976 (see References).

⁵Calculated by the author with data from Brazil, IBGE, 1972 and 1976 (see References).

where the wards' institutionalized atmosphere fails to promote a return to normality.

The Federal Government also maintains the National Mental Health Division (*Divisão Nacional de Saúde Mental*—DINSAM), a Ministry of Health Agency with the task of establishing norms relating to mental health care delivery. This function, however, has always been performed by the INAMPS, which until now has been the real shaper of psychiatric care in Brazil.

Data Sources

The main source of data for this article was the *Anuario Estatístico do Brasil*, which publishes yearly statistics collected by DINSAM on admissions to psychiatric facilities in Brazil; additional information was obtained directly from unpublished DINSAM records. The origin of DINSAM data is a questionnaire mailed to each psychiatric hospital, as well as to each psychiatric clinic and psychiatric unit in general hospitals, registered with the Ministry of Health. Over 80 per cent of the hospitals returned the questionnaire in all the years under study (1960-1974) except 1974, when the rate of return dropped to 63 per cent.

The basic population data used were provided by the Brazilian national censuses of 1960 and 1970. To calculate the population for the intermediate years, a constant representing the rate of geometric growth of the population was extrapolated using census data as an indicator.⁶ Also, five-year age groups from the census were paired to give the ten-year categories used in this study. Data for Blacks, Mestizos, and Orientals were all combined in the non-White category.

⁶This method of establishing population growth does not take into account variations in age-specific mortality and fertility rates among the various subgroups of the population. However, a comparison of the sex and age structure, marital status, religion, and percentage of foreigners in the two census populations involved did not show any sizable differences. The formula used to calculate the constant was: $P_t = P_o (1 + r)^t$ where P_t = population as of 1970; P_o = population as of 1960; r = a constant; and t = the time interval in years.

The origins of these data do not provide a basis for assessing the data's reliability or validity. Difficulties involving the definitions of "first admission" and "psychiatric bed" have already been discussed in the literature (Brooke, 1973). Although only 63 per cent of the questionnaires were returned in 1974, analysis of the data for 1974 does not show any major deviation from the overall pattern established for the previous years. Therefore, it would seem reasonable to suppose that the somewhat low 1974 response resulted principally in a quantitative loss of data, without suggesting any qualitative deviation from previous trends.

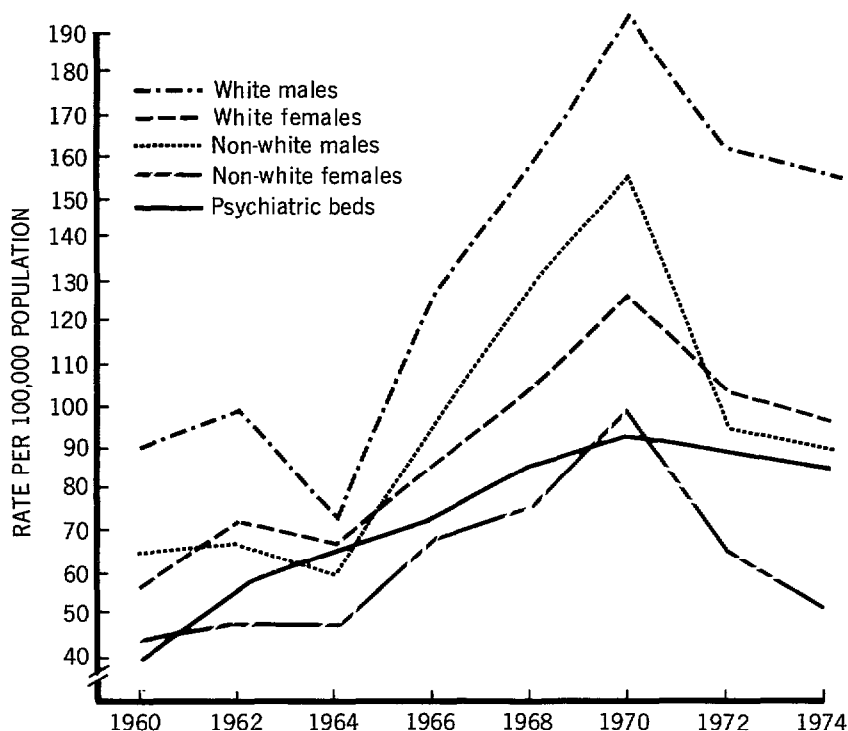
The only data available for the hospitals not responding are data indicating public or private ownership. On the average, over the years 1966-1972 the nonresponse rate was 15 per cent (SD = 4.47) among private hospitals and 8 per cent (SD = 1.13) among public hospitals. In 1974, when there was a drop in the response rate, the situation was reversed. That is, the private hospital nonresponse rate grew to 35 per cent and the public hospital nonresponse rate grew to 44 per cent. Thus, private hospitals seem to be overrepresented among the nonrespondents in all the years under study except 1974. The influence of this imbalance upon the results reported here is difficult to assess. Furthermore, whatever slight information the pattern of ownership could reveal, say, about the population served, is obscured by the fact that both private and public hospitals in Brazil may work under contract with the national health system and so cater to the needs of similar patients.

Results

Race and Sex Data

Figure 1 shows that the rates of first admission for Whites and non-White males and females, as well as the number of psychiatric beds per 100,000 inhabitants, followed a similar trend in 1960-1974. That is, there was a

Figure 1. The numbers of psychiatric beds and age-adjusted^a first admissions per 100,000 population in Brazil, by racial groups and sex, 1960-1974. Data on the number of 1964 psychiatric beds per 100,000 were not available, so the number indicated is the average of the 1962 and 1966 figures.



Sources: *Anuário Estatístico do Brasil*, 1962, 1964, 1966, 1968, 1970, 1972, 1974, 1976, and unpublished data from the National Mental Health Division.

^aThe age-adjustment was based on the 1960 Brazilian male population. Rates for 1972 and 1974 are not age-adjusted, because there were no data on age-specific first admissions by race and sex for these two years. In each year the average effect of age-adjustment was to decrease the rate for White males and females by three first admissions per 100,000 population and to increase the rate for non-White males and females by two.

sharp rise from 1964 until 1970 and a decline thereafter. The hospital bed figures exhibited a slower rise and fall than did the admission rates.

White males had the highest rate of first admission throughout, followed by non-White males. The 1964-1970 increase in admission rates for these two groups was similar, but the decline after 1970 was much sharper among non-White males than among White males. A comparison of the 1960 and 1974 data shows that the rate of White male admission rose 74 per cent (from 90 to 157.8 per 100,000 population) while the rate of non-White male admis-

sion rose 38 per cent (from 65 to 90.8 per 100,000).

The curves for females in each racial group showed the same trend as those for males. White females had higher first-admission rates than non-White females. Between 1960 and 1974 first admissions increased 60 per cent (from 57.7 to 96.5 per 100,000) among White females but by only 12 per cent (from 44.8 to 50.8 per 100,000) among non-White females. The curve for White female admissions twice crossed that for non-White male admissions, the rate of the former exceeding that of the latter in 1962, 1964, 1972, and 1974.

Table 1. Male admissions to psychiatric facilities by age group, 1960-1974. The data shown give the number of first admissions by age group and the age-specific first admission rate per 100,000 population for psychiatric facilities in Brazil.^a

Age (in years)	1960		1962		1964		1966		1968		1970		1972		1974	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
0-9	237	2.2	294	2.6	194	1.6	321	2.5	398	2.9	423	3.0	365	2.4	178	1.1
10-19	2,513	31.6	2,984	35.4	3,030	33.9	4,245	44.8	5,277	52.6	7,854	73.9	5,802	51.5	6,098	51.0
20-29	8,104	148.7	9,334	161.6	8,018	130.9	11,758	181.1	16,350	237.6	20,689	283.7	17,859	231.0	17,892	218.3
30-39	7,466	183.0	8,690	200.9	7,937	173.1	13,528	278.3	18,756	364.0	23,348	427.6	18,755	324.0	18,853	307.3
40-49	4,834	159.0	5,334	165.5	4,883	142.9	9,208	254.3	11,932	310.8	15,529	381.7	13,659	316.7	14,111	308.6
50-59	2,370	121.6	2,763	133.8	2,612	119.3	4,904	211.3	5,913	240.3	7,865	301.7	6,191	224.0	6,660	227.3
≥ 60	1,471	87.5	1,725	96.8	1,624	85.9	2,314	162.1	3,507	165.2	5,181	230.3	3,593	150.6	3,521	139.2
Total ^b	26,995	77.9	31,124	84.7	28,298	72.6	46,278	112.1	62,133	141.9	80,889	174.4	66,224	134.7	67,313	129.2

Sources: *Anuario Estatístico do Brasil*, 1962, 1964, 1966, 1968, 1970, 1972, and unpublished data from the National Mental Health Division (DINSAM).

^aData do not cover all psychiatric facilities in Brazil. The hospital response rate for the years under study averaged 80 per cent.

^bTotals vary from this table to Table 3 due to unknown ages of some patients.

Table 2. Female admissions to psychiatric facilities by age group, 1960-1974. The data shown give the number of first admissions by age group and the age-specific first admission rate per 100,000 population for psychiatric facilities in Brazil.^a

Age (in years)	1960		1962		1964		1966		1968		1970		1972		1974	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
0-9	178	1.7	210	1.9	118	1.0	155	1.2	226	1.7	317	2.3	371	2.5	72	0.4
10-19	2,267	27.8	2,856	33.0	2,736	29.8	3,976	40.9	5,114	49.6	6,929	63.4	5,207	45.0	5,061	41.2
20-29	5,471	94.4	6,864	111.7	6,433	98.8	8,541	123.7	10,499	143.5	14,009	180.7	12,057	146.7	10,787	123.8
30-39	4,621	111.1	5,946	133.1	6,058	129.6	8,680	175.2	10,924	208.8	13,663	245.5	10,783	182.8	10,103	161.5
40-49	2,893	98.3	3,596	115.3	3,828	115.8	5,813	165.8	7,142	192.2	9,580	243.3	7,733	185.2	7,542	170.4
50-59	1,642	87.5	2,134	103.3	2,290	108.6	3,246	145.2	3,746	158.1	5,598	222.9	3,931	147.6	4,081	144.6
≥ 60	1,184	67.6	1,382	77.5	1,577	80.1	2,305	110.5	2,657	120.2	3,765	160.7	2,783	112.0	2,539	96.4
Total ^b	18,256	18.3	22,988	62.1	23,040	58.7	32,716	78.6	40,308	91.4	53,861	115.2	42,865	86.5	40,185	76.5

Sources: *Anuario Estatístico do Brasil*, 1962, 1964, 1966, 1968, 1970, 1972, and unpublished data from the National Mental Health Division (DINSAM).

^aData do not cover all psychiatric facilities in Brazil. The hospital response rate for the years under study averaged 80 per cent.

^bTotals vary from this table to Table 4 due to unknown ages of some patients.

Age Data

As Tables 1 and 2 show, first admission rates tended to increase with age, reaching their maximum levels in the 30-39 and 40-49 age groups, with the next-highest levels occurring in the older age groups. This was true for both men and women in each of the years studied. It was also true that the rates for men and women in each age group rose sharply (though not necessarily steadily) up to 1970, and that the only group with a lower rate of first admissions in 1974 than in 1960 were the boys and girls in the 0-9 year age group. At the other end of the spectrum, the rates for men and women in the 40-49 and 50-59 age groups nearly doubled over this fourteen-year period. Comparing male and female groups, admission rates among females tended to increase less sharply from childhood to middle age, and to drop off less sharply thereafter.

Specific Diagnoses

As Table 3 shows, the first admission rates for males with all the specific diagnoses listed increased over the period 1960-1970 and declined thereafter. However, with the exception of the groups with "mental retardation" and "other diagnoses," these declines did not reduce admission rates below the 1960 level.⁷

⁷For this analysis diagnoses were grouped as follows: (a) up to 1970: dementia = senile and presenile dementia; other organic syndromes = all psychiatric syndromes, whether psychotic or not, associated with an organic pathology; schizophrenia = all subtypes of schizophrenia; affective psychoses = all subtypes of manic-depressive psychosis; other psychoses = psychogenic psychosis plus other forms of psychosis; neurosis and personality disorders = all subtypes of both of these disturbances; alcohol and drug dependence = all subtypes of alcohol dependence, including alcoholic psychosis and all subtypes of drug dependence; mental retardation = all subtypes; other diagnoses = nonclassified mental pathology, under observation, undiagnosed. (b) from 1972 onwards (as listed in the International Classification of Diseases, Eighth Revision—see World Health Organization, 1967): dementia = 290; other organic syndromes = 292, 293, 294, and 309; schizophrenia = 295; affective psychoses = 296; other psychoses = 297, 298, and 299; neurosis and personality disorders = 300 and 301; alcohol and drug dependence = 303, 304, and 291; mental retardation = 310 to 315; other diagnoses = 302, 305, 306, 307, and 308.

Overall, the greatest increases among male admissions over the fourteen-year period were registered by admissions for "other psychoses," "neuroses and personality disorders," and "alcohol and drug dependence." These three diagnostic categories showed respective sevenfold, threefold, and twofold increases.

Roughly the same trends were observed for female first admissions (Table 4). The only diagnostic groups to show an overall decline over the 1960-1974 period were "mental retardation," "other organic syndromes," and "other diagnoses." Meanwhile, "other psychoses" registered a fourfold increase, "neurosis and personality disorders" a threefold increase, and "alcohol and drug dependence" a twofold increase. The latter ("alcohol and drug dependence") group showed a striking difference between male and female admission rates, the rate of male admissions in 1974 being 10 times the female admission rate.

Discussion

Psychiatric care in developed countries is usually delivered through a complex health system in which the patient has a wide choice of treatment facilities. The options include inpatient care in mental hospitals, community mental health centers, or general hospitals; crisis intervention; emergency care; admission to halfway houses; day or day-and-night care; residence in special hostels; and work in protected shops. In these countries hospital statistics account for only a fraction of all psychiatric contacts made between the population and the health care system, and the patients admitted are a highly biased portion of the whole population receiving psychiatric care.

The data in this article come from a totally different system. In Brazil, as in many developing countries, the delivery of psychiatric care is still centered around hospitalization, and only a small fraction of the population is seen by private psychiatrists. In this context, hospital statistics have a special significance. The first admission is indeed the primary con-

Table 3. Male admissions by diagnosis, 1960-1974. The data shown give the number of first admissions in each diagnostic category and the diagnosis-specific first admission rate per 100,000 population for psychiatric facilities in Brazil^a

Diagnosis	1960		1962		1964		1966		1968		1970		1972 (m & f) ^b		1974	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Dementia	575	1.6	588	1.6	561	1.4	916	2.2	1,029	2.3	1,512	3.2	2,557	2.6	1,323	2.5
Other organic syndromes	3,801	10.9	4,101	11.1	3,553	9.1	6,134	14.8	8,065	18.4	10,603	22.8	13,489	13.7	6,906	13.2
Schizophrenia	7,578	21.8	8,604	23.4	7,342	18.8	11,605	28.1	14,878	34.0	17,881	38.5	24,803	25.1	16,341	31.3
Affective psychoses	1,658	4.7	2,168	5.9	1,749	4.5	2,708	6.5	3,336	7.6	3,975	8.5	7,110	7.2	2,557	4.9
Other psychoses	613	1.7	920	2.5	1,034	2.6	2,163	5.2	2,387	5.4	3,173	6.8	11,132	11.3	6,679	12.8
Neuroses and personality disorders	1,833	5.2	2,050	5.5	2,852	7.3	4,350	10.5	6,222	14.2	9,953	21.4	18,252	18.5	8,534	16.4
Alcohol and drug dependence	5,839	16.8	6,842	18.6	6,789	17.4	13,148	31.8	18,715	42.7	23,064	49.7	22,603	22.9	20,008	38.4
Mental retardation	1,437	4.1	1,635	4.4	1,658	4.2	2,198	5.3	3,105	7.1	4,659	10.0	3,770	3.8	2,022	3.8
Other diagnoses	4,468	12.8	4,822	13.1	3,349	8.6	4,968	12.0	5,907	13.5	7,364	15.8	6,638	6.7	3,774	7.2
Total ^c	27,802	80.2	31,730	86.3	28,887	74.2	48,190	116.7	63,644	145.4	82,184	177.2	110,354	111.8	68,144	130.7

Sources: *Anuario Estatístico do Brasil*, 1962, 1964, 1966, 1968, 1970, 1972, and unpublished data from the National Mental Health Division (DINSAM).

^aData do not cover all psychiatric facilities in Brazil. The hospital response rate for the years under study averaged 80 per cent.

^bThere are no 1972 data for first admissions by sex and specific diagnosis; therefore, the 1972 data shown include both males and females.

^cTotals vary from this table to Table 1 due to unknown ages of some patients.

Table 4. Female admissions by diagnosis, 1960-1974. The data shown give the number of first admissions in each diagnostic category and the diagnosis-specific first admission rate per 100,000 population for psychiatric facilities in Brazil.^a

Diagnosis	1960		1962		1964		1966		1968		1970		1972 (m & f) ^b		1974	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Dementia	522	1.5	690	1.8	683	1.7	930	2.2	1,013	2.3	1,247	2.6	2,557	2.6	1,066	2.0
Other organic syndromes	2,862	8.2	3,145	8.5	3,595	9.1	4,893	11.7	5,984	13.5	7,866	16.8	13,489	13.7	4,227	8.0
Schizophrenia	6,234	17.8	7,533	20.3	7,512	19.1	10,027	24.0	11,967	27.1	15,036	32.1	24,803	25.1	10,832	20.6
Affective psychoses	2,088	5.9	2,972	8.0	2,556	6.5	3,530	8.4	4,567	10.3	6,024	12.8	7,110	7.2	3,471	6.6
Other psychoses	849	2.4	1,116	3.0	1,095	2.8	1,879	4.5	2,670	6.0	3,304	7.0	11,132	11.3	6,003	11.4
Neuroses and personality disorders	1,780	5.1	2,444	6.6	3,408	8.6	5,025	12.0	7,647	17.3	11,175	23.9	18,252	18.5	9,702	18.4
Alcohol and drug dependence	545	1.5	547	1.4	859	2.1	1,345	3.2	1,517	3.4	2,069	4.4	22,603	22.9	2,002	3.8
Mental retardation	1,112	3.2	1,635	4.4	1,658	4.2	2,198	5.3	3,105	7.0	4,659	9.9	3,770	3.8	1,202	2.2
Other diagnoses	2,941	8.4	3,827	10.3	2,297	5.8	3,931	9.4	3,908	8.8	5,222	11.1	6,638	6.7	2,308	4.4
Total ^c	18,933	54.2	23,909	64.5	23,663	60.3	33,758	81.2	42,378	96.0	56,602	121.0	110,354	111.8	40,813	77.7

Sources: *Anuario Estatístico do Brasil*, 1962, 1964, 1966, 1968, 1970, 1972, and unpublished data from the National Mental Health Division (DINSAM).

^aData do not cover all psychiatric facilities in Brazil. The hospital response rate for the years under study averaged 80 per cent.

^bThere are no 1972 data for first admissions by sex and specific diagnosis; therefore, the 1972 data shown include both males and females.

^cTotals vary from this table to Table 2 due to unknown ages of some patients.

tact that the great majority of psychiatric patients establish with the health care system; and, more accurately than in developed countries, the study of first admission rates can provide a detailed picture of how and by whom the psychiatric care system is being used.

The results reported here confirm previous findings showing a positive relationship between the availability of psychiatric beds and the number of hospital admissions (Astrup and Odegard, 1960). However, this relationship is not a simple one. It may be affected by a variety of factors such as the psychiatrist's attitude toward treatment, changes in the health care system, social factors, and so forth.

The 1964 decline in the rates shown in Figure 1 is an interesting finding, because that was the year a military revolution overthrew the government in power and led to a period of political and social instability. It is impossible to know, however, whether the prevailing social conditions lowered the rate of first admissions by diminishing the incidence of psychiatric disorders or by changing the pattern of utilization of hospital facilities by the population. Social instability has been associated with both an increase and a decrease in the appearance of mental disorders (Odegard, 1954; Titmuss, 1960; Dohrenwend, 1975).

From 1970 onwards there was a decline in the first admission rate accompanied by a not so sharp decline in the availability of beds per 100,000 inhabitants. Previous epidemiologic reasoning applied to data from developed countries has attributed such leveling-out of hospital admissions to the use of alternative methods of care or to a change in the characteristics of psychiatric services (Baldwin, 1968; Kramer, 1969). This thinking implicitly assumes a constant relationship between the services offered and the size of the population, a characteristic of developed nations.

In Brazil, however, the situation has been quite different. To begin with, the observed drop in the first admission rate did not coincide with the offering of new services to the

population. On the contrary, national data for attendance at outpatient psychiatric departments from 1970 to 1973 show that the rate of attendance decreased from 813.1 per 100,000 in 1970 to 796.1 per 100,000 in 1973.⁸ Second, the decline in the number of beds available per 100,000 population was due exclusively to population growth (12.4 per cent in 1970-1974), as the absolute number of beds kept rising (from 85,976 beds in 1970 to 87,832 in 1974). So the sharp drop in the first admissions rate resulted from a decline in the number of potential patients coming to the hospitals combined with population growth.

Figure 1 also shows striking differences among first admission rates for Whites and non-Whites. The influence of social and cultural factors in these results can hardly be underestimated. It is possible that people facing extreme poverty, which is more common among non-Whites than Whites in Brazil, may tend to view hospitalization as something to be avoided at all costs (Bachrach, 1975). It is also possible that the presence of folk healers and their association with African religious practices, prevalent among Blacks in Brazil, helps to keep this population out of hospitals.

The consistency with which male first admissions outnumbered female first admissions is in accord with other findings (Milazzo-Sayre, 1977; Bachrach, 1975). It also seems to be connected with the diagnosis of alcohol-dependence among a disproportionate share of the males. Considering all the diagnoses together, the male first admissions rate averaged 50 per cent higher than the female rate. Considering all diagnoses except "alcohol and drug dependence," males still outnumbered females but only by 17 per cent. This "alcohol and drug dependence" category, which consisted 95 per cent of alcoholic admissions and 5 per cent of drug addict admissions in the years under consideration, therefore seems to be the most impor-

⁸Calculated by the author with data from Brazil, IBGE, 1972a and 1974 (see References).

tant single factor accounting for the differences in the first admission rates of the two sexes. The relatively high rate of alcohol-dependence among males is in accordance with findings for the general population—both in Brazil (Azoubel Neto, 1967) and other South American countries (Tarnopolsky, 1975; Marconi et al., 1955). It is also in accord with cultural factors connected with “*machismo*,” which encourages men to drink.

Looking at the rates for specific diagnostic groups, it can be seen that the drop in the overall rate after 1970 affected almost all diagnoses, with the exception of “other psychoses.” The increase in this latter category was probably due to a change in the diagnostic classification system being used by the National Mental Health Division (DINSAM). Until 1970, the classification system used was that developed by the National Mental Disease Service (*Serviço Nacional de Doenças Mentais*), which was later superseded by DINSAM. This classification had only one category (“psychogenic psychosis”) besides schizophrenia and manic-depressive psychosis for psychoses not associated with organic problems. In 1974 this classification system was replaced by that listed in the *International Classification of Diseases, Injuries, and Causes of Death* (8th Revision). This classification has the usual categories for schizophrenia (295) and affective psychosis (296), other psychoses (298), and nonspecific psychoses (299); and our grouping (see Tables 3 and 4) reflects this change.

The age-specific rates for both males and females mirror the usual distribution of psychiatric pathology by age. The highest rates are in the age groups where the incidence of diagnoses such as alcohol-dependence, neurosis, and functional psychosis is traditionally higher. The lower rate for the group 65 and over may be explained by a variety of factors, from life expectancy to the absence of beds especially designed for the elderly. Among these factors in Brazil, as in many other Latin American countries, cultural values place a strong emphasis on family ties. The family structure usually embodies more than the nuclear family, and it is a common practice

for an aged relative to live with a married son or daughter to avoid institutionalization.

By taking into account the rate of psychiatric beds per 100,000 population, first admission rates, and outpatient attendance, it becomes apparent that the system of psychiatric care in Brazil did not keep pace with population growth during the period 1970-1974. The implications of this finding for evaluation and planning are not easy to assess in the absence of data from the general population. Did this contraction of the system result from a real drop in the incidence of mental problems? Or did it instead signal failure to provide health care for a rapidly expanding population? Although those concerned purely with intellectual speculation would doubtless find it more glamorous to assume a real drop in the appearance of mental disturbances, practical and plausible arguments tend to focus upon the possible erosion of care.

Nevertheless, one cannot rest content with this latter line of thinking, for it implies that there should have been an expansion of the psychiatric care system at a time when the country had no secure indicators of what would be a good standard of mental health care. In 1974 Brazil had 84 psychiatric beds per 100,000 population. Did this imply a lack of psychiatric facilities and a low standard of care? Not necessarily, for the “patients” may have been cared for elsewhere. The forementioned relationship between the Brazilian tradition of maintaining extended families and the lowering of the first admission rate with the approach of old age provides a good example of at least one case where care “elsewhere” is apt to be provided.

The data presented here also permit identification of population groups with unusually high rates of admission to psychiatric hospitals. In this vein, the data show that both male and female patients are more likely to be White and especially apt to be admitted between the ages of 30 and 49. The more common diagnoses for male patients are schizophrenia and alcoholism, while the more common diagnoses for female patients are schizophrenia and neurosis.

It seems appropriate that these findings should be applied within the context of the present discussion, and that such application should go beyond providing guidelines for the usual prevention policies. In particular, research concerned with White and non-White

groups should be directed at understanding how they reach the hospital. If there is a cultural tradition that seems to keep Blacks and the elderly out of hospitals, there may be another one directing Whites 30-49 years of age toward institutionalization.

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SUMMARY

This article provides an epidemiologic analysis of first admissions to psychiatric hospitals in Brazil. The data employed were regularly collected by the National Mental Health Division (Divisão Nacional de Saúde Mental) through a questionnaire mailed yearly to all psychiatric facilities registered with the Brazilian Ministry of Health. The response rate for the years under study averaged 80 per cent. The results show that rates of first admission for each sex, and for both Whites and non-Whites, increased until 1970, following a pattern of increase in the number of psychiatric beds per 100,000 population.

White males generally had the highest rate of first admissions, followed by non-White males, White females, and non-White females. First admission rates increased with age in each group, peaking in the 30-39 and 40-49 age groups. Among males, the most frequent diagnoses involved were "schizophrenia" and "alcohol and drug dependence," while among females they were "schizophrenia" and "neuroses and personality disorders." These results are discussed in the light of Brazil's organization of psychiatric services and social conditions.

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