The use of a psychiatric case register for research is reported, with specific attention to the use of psychiatric services in four areas. Rates were obtained by demographic variables and by diagnostic classification, as well as for one day prevalence, one year admissions, and one year prevalence. Further studies based on such registers are discussed.

ADMISSION AND PREVALENCE RATES FOR PSYCHIATRIC FACILITIES IN FOUR REGISTER AREAS

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A PSYCHIATRIC case register is a relatively new tool for obtaining more precise information on the number and characteristics of residents of a geographic area who receive care in a defined set of inpatient and outpatient psychiatric facilities. Linkage of reports for persons who receive more than one episode of service yields unduplicated patient counts for psychiatric admission and prevalence rates, and longitudinal psychiatric data. A limitation of the psychiatric register is that it includes only those mentally ill persons who receive psychiatric services. The latter is affected by a number of selective factors such as availability of facilities, cultural attitudes toward mental illness, and receptivity to psychiatric services.

Our objective in this first cooperative psychiatric register research is to review the use of psychiatric services in four register areas—the states of Maryland and Hawaii and the communities of Monroe County, New York, and a tricounty area (Durham, Orange, and Wake Counties) in North Carolina. We hope to find the baseline similarities and differences in services before the advent of the new community mental health programs. For example, is the general magnitude of the rates similar? Are there common service patterns by urban-rural and other demographic subgroups? Can differences be explained by variation in the availability of facilities, programs or policies, or urbanization? What clues are there to further research with respect to population needs?

The four register areas differ markedly in ethnic and urban composition (Table 1), psychiatric and other resources (Table 2), and reporting facilities. Therefore data were examined by central city versus other areas, by age, sex, and race, and by class of psychiatric facility or combinations of classes. Total rates will be presented first for one day prevalence, one year admissions and one year prevalence, followed by comparisons of rates by demographic variables and by diagnostic classification.

Some methodological problems were: (1) nonreporting facilities (estimates were made for these in total rates); (2) availability of only one day prevalence data for Tricounty, North Carolina, register, due to its recent establishment (July 1, 1964); (3) lack of separate

Table 1—Population characteristics, four register areas

Register Area	Total Population (000)*			White Population (000)			Nonwhite Population (000)‡		
		Central City†			Central City			Central City	
	Total	Number	Per cent	Total	Number	Per cent	Total	Number	Per cent
Hawaii	633	—	—	202	—	—	430	—	—
Maryland	3,367	924	27	2,792	570	20	575	354	62
Monroe County, N.Y.	618	308	50	586	277	47	32	31	97
Tricounty, N. C.	352	211	60	258	152	59	93	59	63

* Population estimates as of July 1, 1964, for Tricounty, N. C.; July 1, 1963, for Maryland and Monroe County, N. Y., and census data as of April 1, 1960, for Hawaii.

† Central cities are Baltimore, Md., Rochester, N. Y., and Chapel Hill-Raleigh-Durham, N. C. Data not available for Honolulu, Hawaii.

‡ For Hawaii, includes primarily Hawaiian and part Hawaiian, Chinese, Filipino, and Japanese races. For other areas, primarily Negro.

central city data for Honolulu; and (4) heterogeneity of Hawaiian nonwhite population preventing comparison with largely Negro nonwhite population of other register areas.

Total Rates

One Day Prevalence—Total one day prevalence was fairly similar among the four registers. This rate, the number of persons, per 100,000 population, on the rolls of all psychiatric inpatient and outpatient* facilities on July 1, 1963, ranged from 600 to 850 (Table 3). State and county mental hospitals, the primary inpatient resource, served one-third or more (200 to 350) of the total caseload.† State retarded facilities accounted for about 100 patients, all other inpatient resources about 50 or less, and outpatient clinics between 200 to 300, per 100,000.

In each area except Tricounty, the number of long-term leave (conditionally discharged) patients per 100,000 population was fairly large (100 to 170). In Hawaii and Monroe County over 80 per cent of such patients were receiving aftercare in a state hospital clinic or other psychiatric outpatient facility. In Maryland and Tricounty, however, the proportion receiving aftercare was only 29 and 13 per cent, respectively. The remaining long-term leave patients may have been receiving social work services provided by the state hospital or foster care program, or no follow-up care.

One Year Admissions—The unduplicated admission rates‡ for the year July 1, 1962-June 30, 1963 showed somewhat more variation among registers than one day prevalence (Table 4). The over-all rate per 100,000 varied from approximately 450 for Hawaii to 800 for Monroe County. For state and county hospitals the rate was 100 to 300, for clinics 250 to 450. The high rate for mental hospitals in Monroe

* Includes persons who received one or more face to face interviews in public or private clinics and who were expected to return for further service. Monroe County outpatients who did not return for further care were terminated from service as of the last visit, whereas in the other three areas they were enrolled up to a maximum of three months thereafter. This difference in definition would result in a somewhat lower one day clinic prevalence count for Monroe County and possibly a slightly higher admission rate. A recalculation of the Maryland prevalence data according to the Monroe County definition showed a 2 per cent reduction in the outpatient clinic rate. In all areas, some patients seen infrequently on a regular or "as needed" basis were included. Persons enrolled in more than one clinic were counted only in the last to which admitted. Partial hospitalization (day-night) services were minimal and were included in outpatient data.

† Includes persons on temporary leave or on elopement of less than one month.

‡ Includes patients returning to inpatient status from long-term hospital leave.

County is largely the result of an active county hospital; this facility served about half of all public hospital admissions, many of older age.

In contrast to one day prevalence, the admission rate was much lower for retarded institutions (15 per 100,000) than for private, general, and Veterans Administration hospitals (100 to 200), reflecting the much smaller turnover for retarded patients. The state and county mental hospital turnover apparently exceeds that in institutions for the retarded but is less than other inpatient services.[1,2] The data suggest also a relatively long stay in Hawaii State mental hospitals. Both the high clinic admission rate and apparently rapid turnover in Monroe County facilities indicate a large volume of diagnostic services and greater use than elsewhere of the emergency department for pre-inpatient screening.

One Year Prevalence — One year prevalence, comprised of all persons under care of psychiatric facilities at the beginning of the year plus additional persons entering under care, varied from about 900 to 1,500 per 100,000 (Table 5). At the 1963 level of psychiatric resources, therefore, between 1 and 1.5 per cent of the population in widely different geographic areas received services in a psychiatric facility during a 12-month period. About one-half of the patients in Maryland and Monroe County and one-third of those in Hawaii were inpatients of state or county mental hospitals. As many or more had contact with an outpatient facility. A small number were on long-term leave only.

Table 2—Psychiatric resources, four register areas

	Hawaii	Maryland†	Monroe County, N. Y.	Tricounty, N. C.
Number of psychiatric inpatient beds, total	1,435	13,656	3,377	1,631
State* and county mental hospitals	1,079	8,441	2,390	1,005
State retarded institutions*	222	2,872	850	406
General hospitals	134	176	87	20
Private hospitals	—	1,173	—	—
Veterans Administration hospital*	—	994	50	200
Number of beds per 100,000 population	227	406	547	464
Scheduled professional man-hours per week in outpatient psychiatric clinics, total	1,590	6,913	1,382	1,912‡
Number of clinic man-hours per 100,000 population	251	205	224	544
Number of psychiatrists in half-time to full-time private practice	20	162	42	44
Number per 100,000 population	3.2	4.8	6.8	12.5

* Estimated number of beds allocated to county residents.
† Includes estimate of beds for Maryland patients seen in District of Columbia facilities, such as St. Elizabeths Hospital.
‡ Includes 889 trainees.

Table 3—One-day prevalence rates* (Persons under care of psychiatric inpatient or outpatient facilities per 100,000 population, four psychiatric registers)

Class of Facility	Hawaii	Maryland	Monroe County, N. Y.	Tricounty, N. C.
Total persons under psychiatric facility care on July 1, 1963†				
Number	3,511	22,222	4,428	2,281
Rate	609 (610)	683	703 (847)	656 (727)
Inpatients (residents)	334 (335)	410	407 (537)	342 (403)
State and county mental hospitals	207	280	363	260
State retarded institutions	127	78	NA (130)	82
Private, general, or VA inpatient facilities	NA (3)	52	44	NA (61)
Outpatients or after-care	275	273	296 (310)	314
Outpatient clinics	222	202	270	287
State mental hospital long-term leave patients:				
in clinics‡	122	27	106	4
not in clinics	25	65	26§	26
State retarded long-term leave patients**	28	6	NA (14)	1

* All rates are age adjusted to total United States civilian population (1960).
† Except for Tricounty, North Carolina, which is as of July 1, 1964.
‡ These persons are included also in the clinic figures.
** Includes data for a few leave patients who are also in clinics.
§ Excludes persons who have not received social service visits.
( ) Includes estimate for facilities not reporting to the register.

Table 4—One-year admission rates (Persons admitted to psychiatric inpatient or outpatient facilities per 100,000 population, three psychiatric registers)*

Class of Facility	Hawaii	Maryland	Monroe County, N. Y.
Total persons admitted to psychiatric facility care, July 1, 1962-June 30, 1963			
Number	2,205	18,579	4,979
Rate	353 (450)	556	807 (816)
Persons admitted to inpatient facilities (including returns from long-term leave)	106 (235)	331	450 (459)
State and county mental hospitals	106	229	325
Returns from long-term leave only†	33	32	65
State retarded institutions	13	15	NA (9)
Private, general, or VA inpatient facilities	NA (140)	101	169
Persons admitted to outpatient facilities	274	297	467

* Data not available for Tricounty, North Carolina. Data "unduplicated" for multiple admissions within each class of facility and between classes.
† These persons are included also in the state mental hospital figures.
( ) Includes estimate for facilities not reporting to the register.

Central City Compared with Other Areas

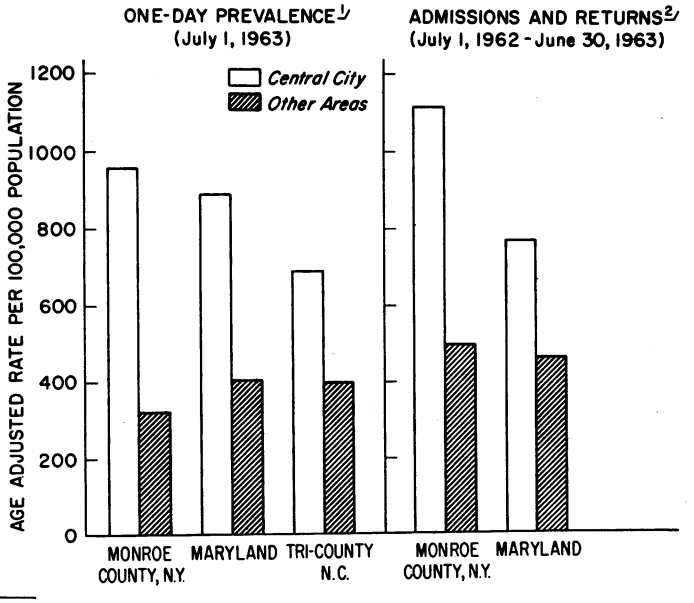
To what extent do urban-rural differences explain interregister variation? The central cities of Rochester and Chapel Hill-Raleigh-Durham accounted for 50 and 60 per cent of their register area populations (Table 1); the remaining parts were primarily suburban. The

Table 5—One-year prevalence rates (Persons under care of psychiatric inpatient or outpatient facilities during year, per 100,000 population, three psychiatric case registers)

Class of Facility	Hawaii	Maryland	Monroe County, N. Y.
Total persons under psychiatric facility care,* July 1, 1962-June 30, 1963			
Number	5,004	35,291	8,395
Rate	839	1,057	1,347
	(930)		(1,500)
Selected facility class:			
State and county mental hospitals (inpatients)	302	470	666
Outpatient psychiatric clinics	484	468	705
Long-term leave only	8	10	21

* Includes persons on long-term leave only.
( ) Includes estimates for general hospitals in Hawaii and for mentally retarded institutions in Monroe County.

Figure 1—Comparative psychiatric register prevalence and admission age adjusted rates: by place of residence



[1] Includes residents and long-term leave patients of State and County Mental Hospitals and Psychiatric Clinic Outpatients. Data for Tricounty as of July 1, 1964.
[2] Includes all psychiatric inpatient and outpatient facilities except mental retardation institutions.

Table 6—Ratio of central city rates to rates for other areas for selected classes of facilities, three psychiatric registers

Register Area and Sex-Race Group	One Day Prevalence				One Year Admissions			
	Inpatients				Inpatients			
	State and County Mental Hospitals	State Retarded Institutions	Private, General, and VA Hospitals	Clinic Out-Patients	State and County Mental Hospitals*	State Retarded Institutions	Private, General, and VA Hospitals	Clinic Out-Patients
Maryland—total	2.5	2.3	1.3	1.9	2.3	2.2	0.7	1.8
White male	2.9	3.1	1.8	1.8	2.6	2.1	1.0	2.0
White female	2.5	2.7	1.2	1.9	2.1	2.3	0.8	1.8
Nonwhite male	1.2	1.3	0.9	1.9	1.5	1.5	0.7	1.6
Nonwhite female	1.2	0.8	‡	2.3	1.6	0.7	‡	1.5
Monroe County, N. Y.—total†	3.7	NA	2.8	2.2	2.9	NA	1.4	2.2
White male	4.6	NA	3.1	2.3	3.9	NA	1.9	2.3
White female	3.0	NA	‡	2.1	2.1	NA	1.2	2.3
Tricounty, N. C.—total†	1.4	1.1	NA	2.2				
White male	1.4	0.9	NA	2.8				
White female	1.5	1.5	NA	2.2				

* Includes returns from leave.
† Data for nonwhites in Monroe County, N. Y., and Tricounty, N. C., not shown because of small numbers.
‡ Rates not shown for less than 25 cases.
NA = data not available.

much larger central city of Baltimore represented only 27 per cent of the Maryland population; surrounding Baltimore were large rural, small urban, and suburban areas.

Within the central city, interregister differences in total rates persisted. Rates were highest for Rochester, Baltimore was next, and (for one day prevalence) Chapel Hill-Raleigh-Durham was lowest (Figure 1). However, clinic prevalence was lowest in Baltimore, except for very low nonwhite rates in Tricounty. Rates in areas outside the central city were more similar among the registers and uniformly low.

The most important observation is the high central city rates.* White rates in the central city generally were two to three times higher than in the remaining areas of Maryland and Monroe County (Table 6). This ratio would be even greater for Maryland outpatients, if it were not for the rural clinics which provide services generally available in Baltimore schools and other nonpsychiatric resources. White males had particularly high inpatient rates in Rochester, a reflection of the many alcoholic and court referrals to the county hospital. The central city differential in Maryland was not as great for nonwhites as whites, reflecting, in part, fairly high nonwhite rates outside Baltimore. Too few nonwhites resided outside Rochester for study. Long-term leave patients living in Baltimore and Rochester made greater use of aftercare facilities than more rural patients. In Tricounty, the contrast between central city and other areas was not as great for inpatients.

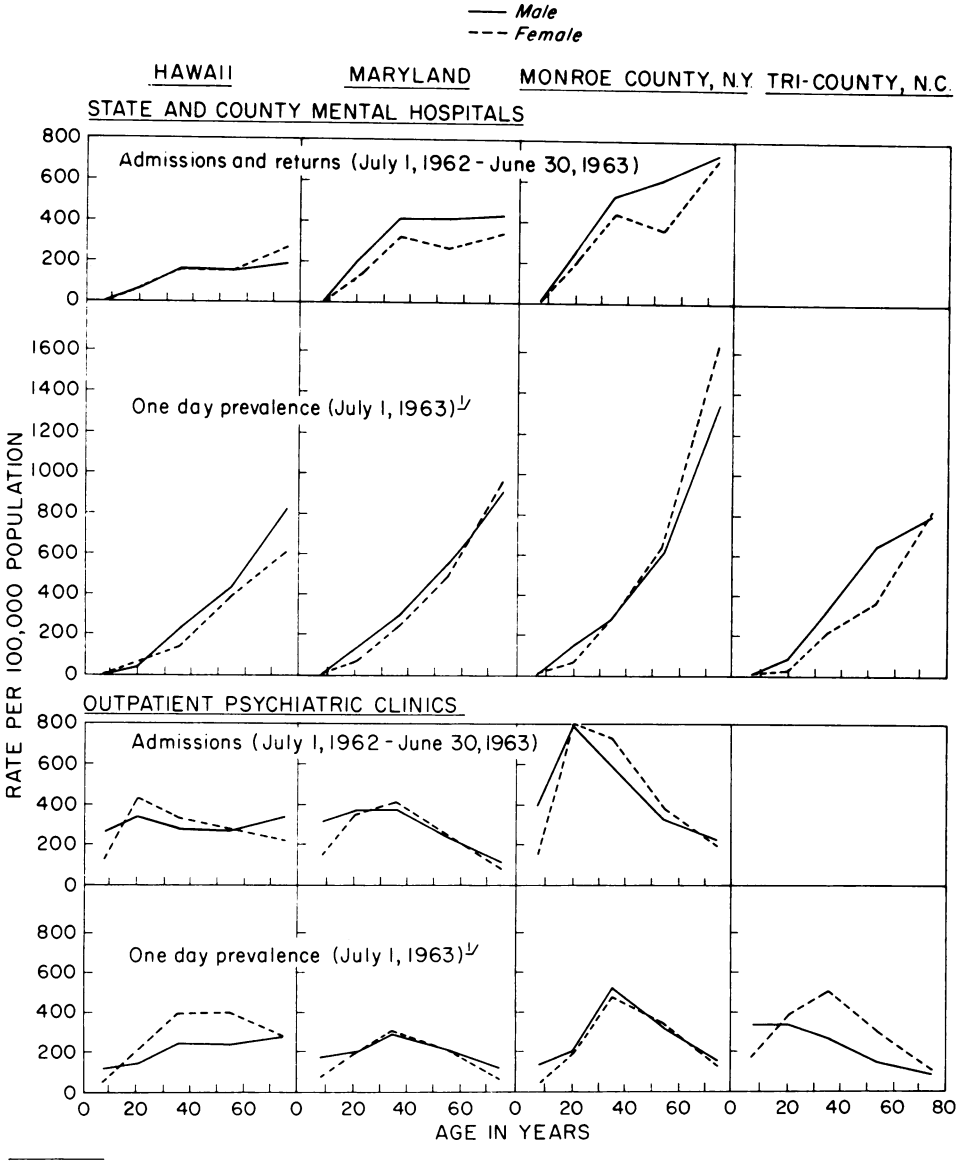
To summarize, in the large central

* Such urban-rural differences would not appear to hold for the state of Hawaii where rates outside Honolulu County were higher. The more rural neighboring islands each have a state psychiatric team and therefore relatively more services per 1,000 population than rural or urban Honolulu County.

cities of Baltimore and Rochester, as many as 1.5 to 1.9 per cent of the population were under care of a psychiatric facility some time during the year (yearly prevalence) in contrast to only 0.8 per cent for the more rural areas.

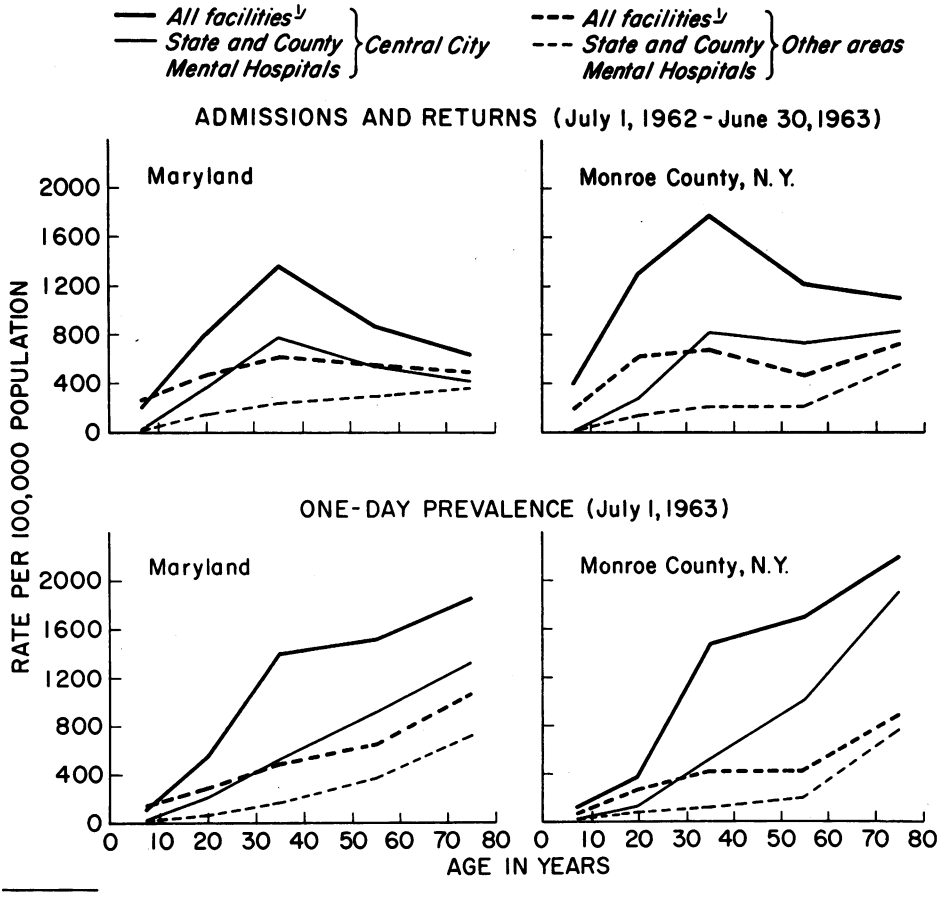
To some extent the high central city rates reflect the urban concentration of state and university facilities and aftercare services. However, in at least Monroe County and Tricounty, most parts of the study areas were within com-

Figure 2—Comparative psychiatric register prevalence and admission rates: by sex and age



[1] Data for Tricounty as of July 1, 1964.

Figure 3—Comparative psychiatric register prevalence and admission rates: by place of residence and age



[1] Includes all psychiatric inpatient and outpatient facilities except mental retardation institutions.

muting distance of psychiatric facilities. Therefore access and availability alone cannot account for urban-rural differences. Other possible factors include: (1) migration to the suburbs of the higher socioeconomic groups who tend to use private services (compare, for example, the high central city to other area ratio for state hospitals with the low ratio for private, general, and VA hospitals); (2) in-migration to the city of persons from the rural South with their subsequent dislocation; (3) in-migration to, or retention in, the city of persons whose psychiatric and social mobility is "downward"; and (4) the effects of urban living conditions. The ecological factors of the central city will be discussed more fully later.

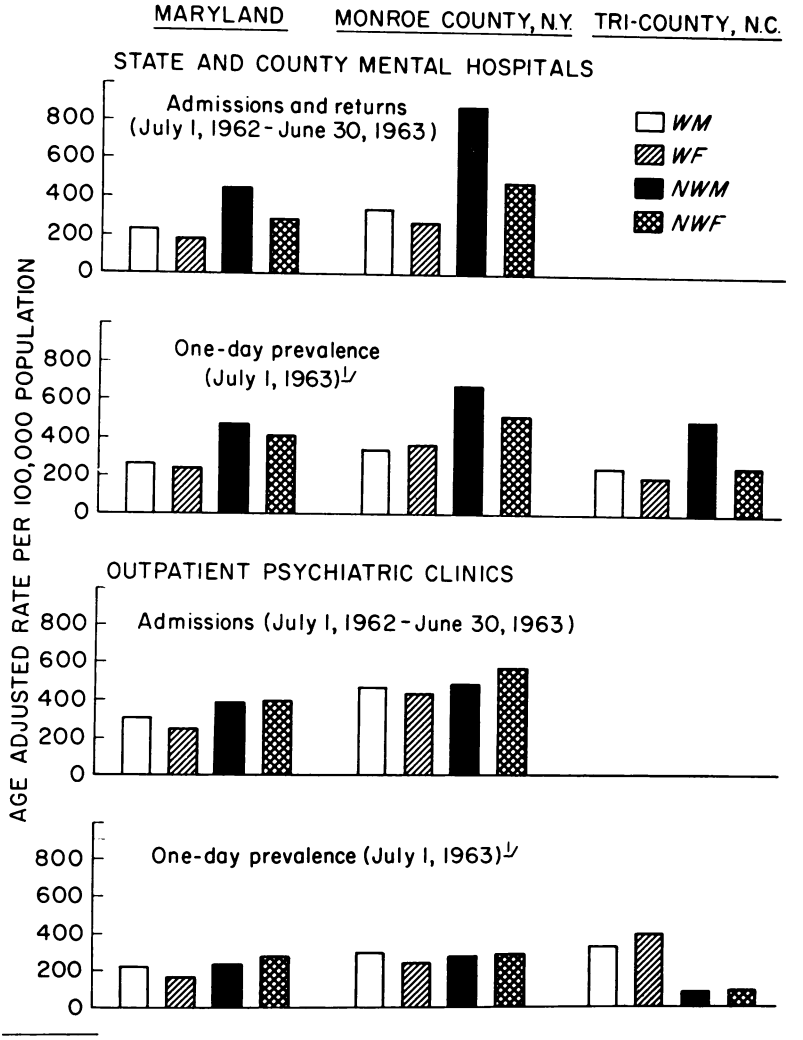
Age, Sex, and Race

Consistent differences were also sought by use of other demographic characteristics such as age, sex, and race. The general shapes of the age-specific rate curves were similar among the registers (Figure 2) and have been noted before. In each area, the public

hospital admission rates tended to level off or (for females) declined slightly after 45 years, but again rose at older ages, particularly for Monroe County. State hospital prevalence continued to increase steadily with age, in part reflecting the aging of the chronic hospital population. In contrast, the clinic admission and prevalence rates tended to decline by age 45 or earlier.

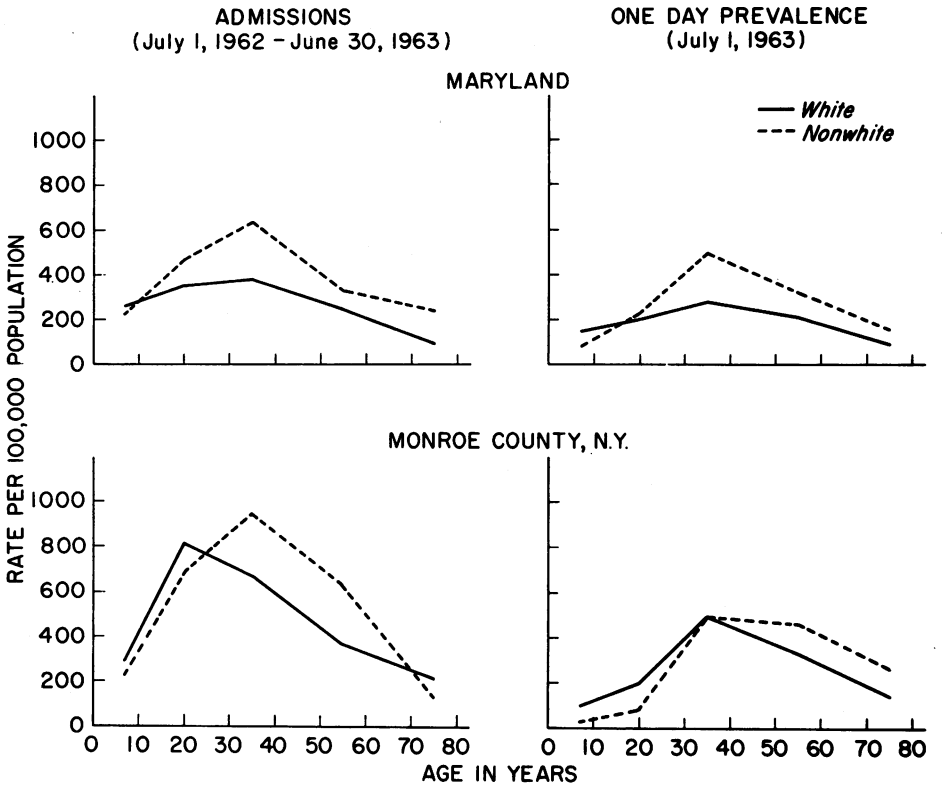
Maryland and Monroe County age-specific rates were even more similar when controlled for central city and other areas (Figure 3). Differences in rates can be readily explained by differences in services, such as the larger psychiatric bed complement in Rochester and the Monroe County infirmary which tends to attract aged persons into the public hospital system.

Figure 4—Comparative psychiatric register prevalence and admission age adjusted rates: by race and sex



[1] Data for Tricounty as of July 1, 1964.

Figure 5—Comparative psychiatric register prevalence and admission rates: for outpatient psychiatric clinics, by race



Sex differences in hospital rates were not consistent among the register areas and will not be enumerated here. In comparisons of clinic rates by sex, age is important. As has been shown previously,[3] in childhood, male admission rates to clinics were consistently higher, while in adulthood, clinic female admission rates were generally higher. (A partial explanation is that behavioral disturbance of boys brings them in earlier, and that women more than men tend to come in on an elective basis.) With respect to clinic prevalence, however, only in Hawaii and Tricounty were rates for women much greater than those for men.

There was more consistency by race (Figure 4). At almost every age nonwhite males had the highest state mental hospital rates, both in the central city and in more rural areas. White males generally were second highest in the central city, while nonwhite females were the second highest in the more rural areas. Nonwhite rates were also relatively high for mental retardation units in Maryland, but not in Tricounty. Fewer of the nonwhite than of the white males on long-term leave in each of the three areas were being seen in aftercare clinics.

White-nonwhite differences in clinic rates varied for children and adults in Maryland and Monroe County; nonwhite rates were lower than white for

children but considerably higher than white in middle adulthood (Figure 5). Particularly high were the clinic prevalence rates for nonwhite women between the ages of 45 and 65 in Rochester and Baltimore. Comparisons between admission and prevalence rates in these two registers suggest a short duration of clinic stay for nonwhites at all ages. In Tricounty, clinic prevalence for nonwhites was consistently quite low throughout the age span.

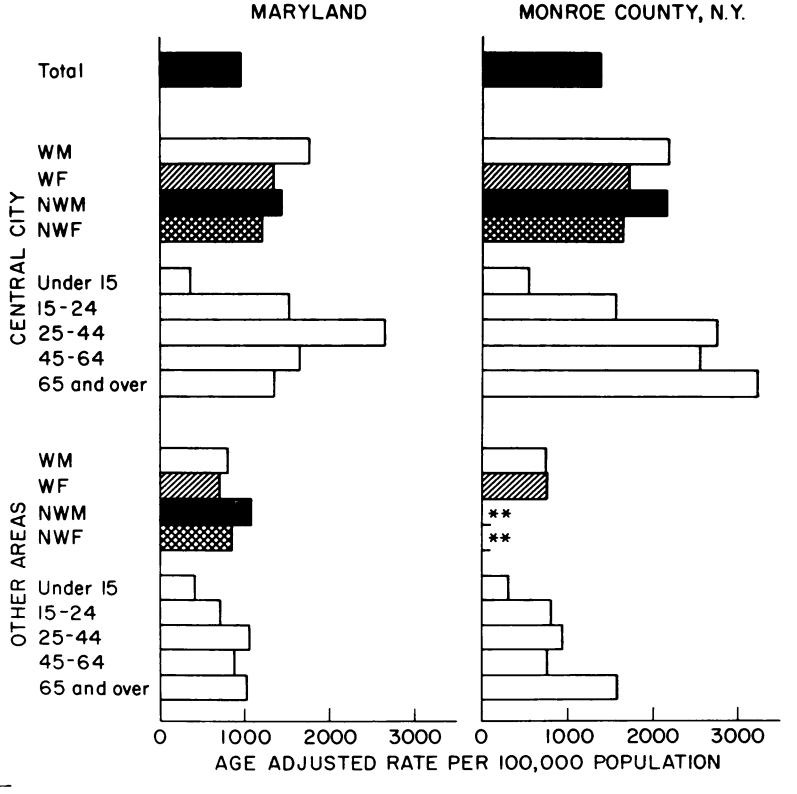
Certain combinations of age, race, sex, and central city residence were associated with one year psychiatric prevalence rates as high as 3 per cent of the population (Figure 6).

Mental Disorder

The primary mental disorder* could be tabulated for inpatients only, since diagnosis is typically not reported for outpatients until termination. Schizophrenic reactions was the predominant admission diagnosis at state hospitals,

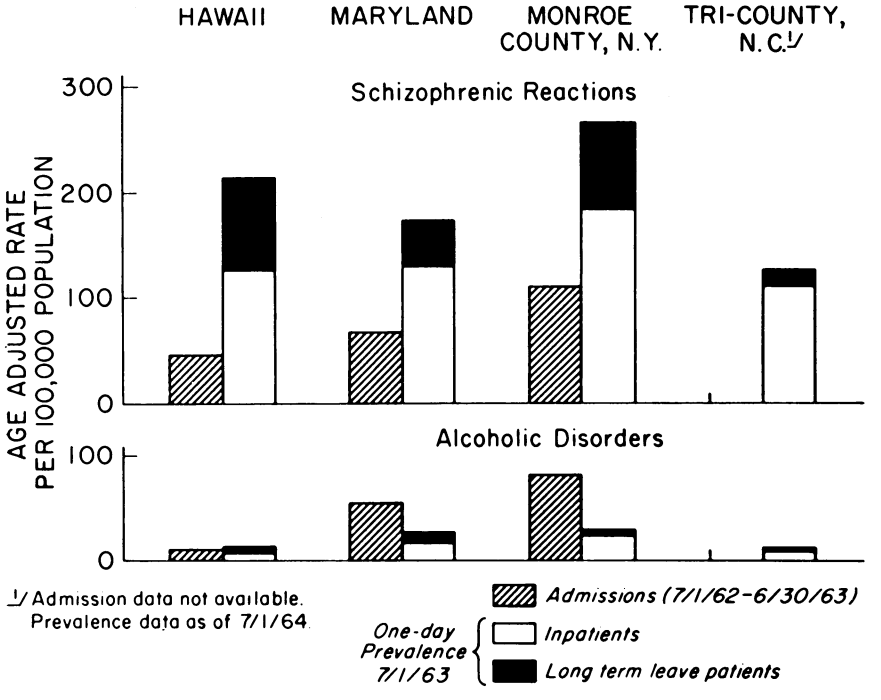
* The diagnosis was recorded and coded according to the 1952 Diagnostic and Statistical Manual of the American Psychiatric Association with the following exceptions. In Tricounty, more than one diagnosis could be listed in order of importance but only the first was tabulated. In Monroe County also, multiple diagnoses were recorded but only one selected for tabulation according to the following priority: schizophrenia, diseases of the senium, depressive reaction, alcoholic disorder, mental deficiencies, and all others.

Figure 6—Comparative psychiatric register one-year prevalence age adjusted rates[1]: by place of residence, race, sex, and age (July 1, 1962-June 30, 1963)



[1] Includes all psychiatric inpatient and outpatient facilities except mental retardation institutions.
** Fewer than 25 cases.

Figure 7—Comparative psychiatric register prevalence and admission age adjusted rates: for state and county mental hospitals for selected disorders

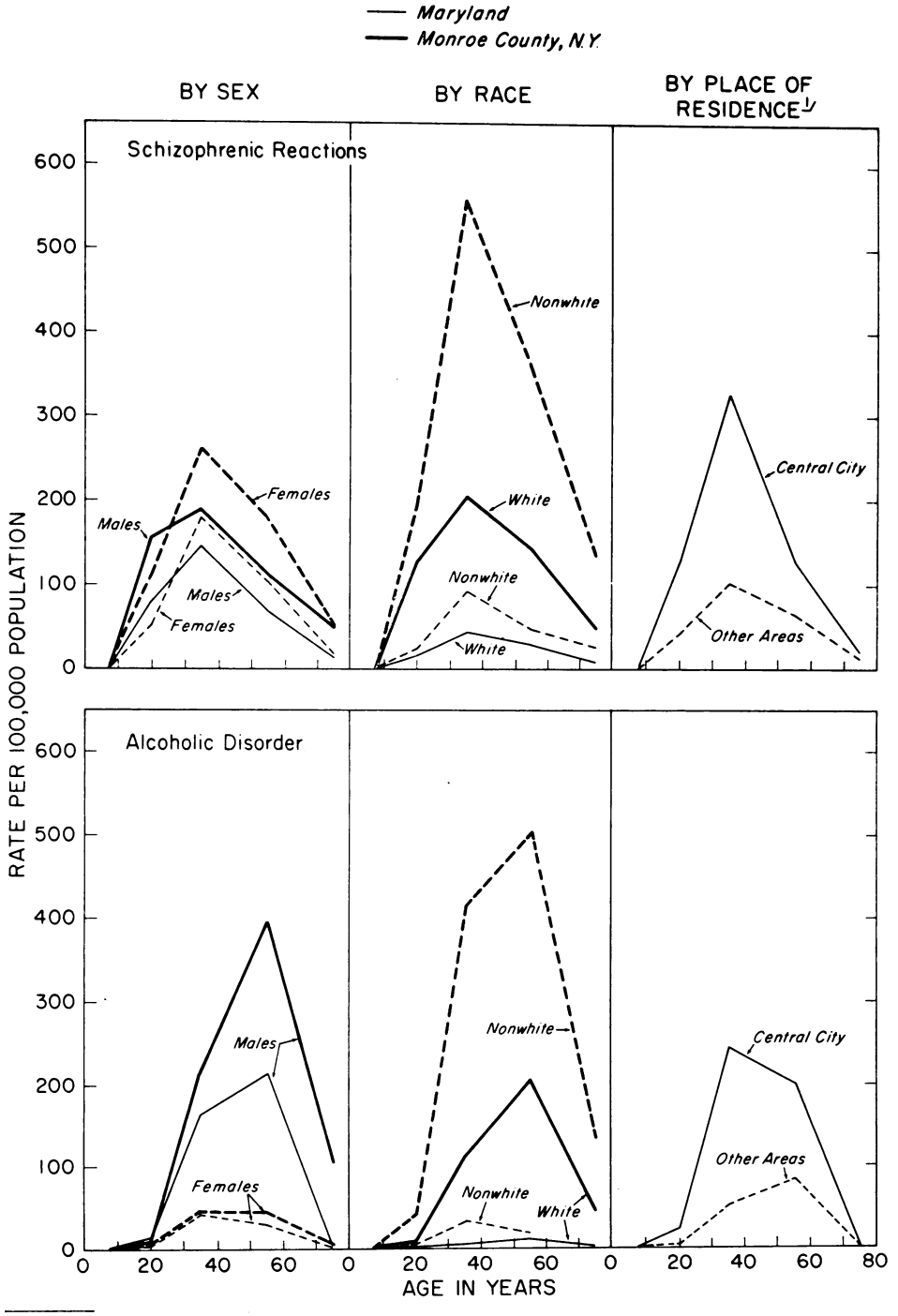


alcoholic disorders the next largest diagnostic category except in Hawaii, and depressive reactions (psychotic or psychoneurotic) the smallest. Senile disorders were relatively numerous in Monroe County and Hawaii, reflecting the relatively high admission rates of older persons. About half of the resident population in these facilities was classified as schizophrenic but, in contrast to admissions, there were few alcoholic disorders and depressive reactions (Figure 7). In Maryland, prevalence of mental retardates in mental hospitals was high, reflecting overflow from the institutions for the retarded.

Distinct differences by sex and race in ranking of state hospital admission diagnoses should be noted. The alcoholic rate was highest and schizophrenia second for both white and nonwhite males. For white females, schizophrenia was highest and alcoholic disorders lowest; for nonwhite females, alcoholic disorder was second highest after schizophrenia. Figure 8 shows age-specific admission rates for schizophrenic reactions and alcoholic disorders by demographic characteristics. Depressive rates for white females were twice those for white males. Hospital prevalence was generally two or more times higher for nonwhites than whites for each disorder except depressive reactions. However, in Tricounty the data thus far available suggest that alcoholic prevalence rates for nonwhites do not exceed white rates.

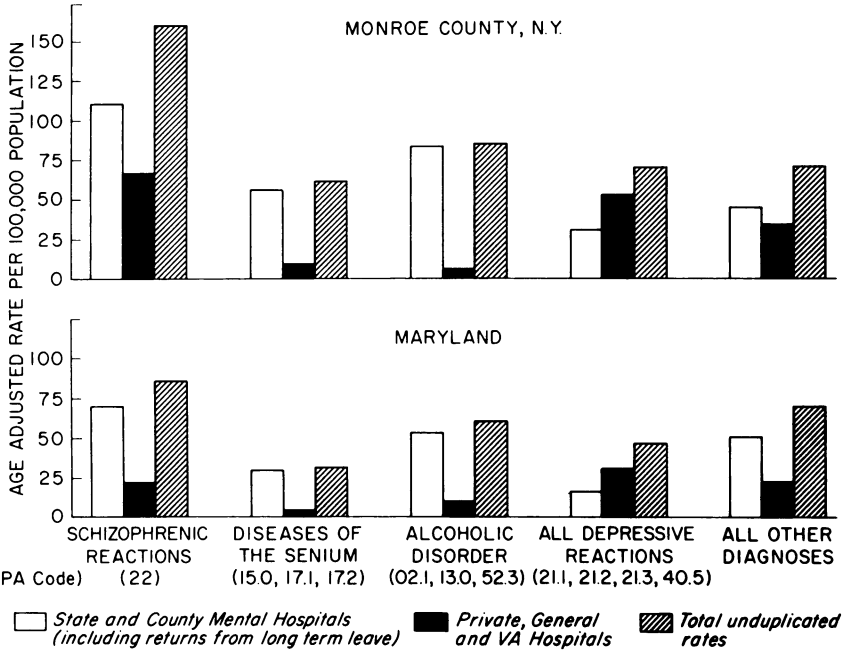
A large number of schizophrenic patients were admitted to the general hospital in Monroe County. Evidently some were subsequently seen in the state mental hospital also, since the total inpatient rate is less than the sum of the

Figure 8—Comparative psychiatric register admission rates to state and county mental hospitals: by sex, race, place of residence, and age, Maryland and Monroe County, N. Y. (July 1, 1962-June 30, 1963)



Some data based on less than 25 cases.
[1] Data not available for Monroe County, N. Y.

Figure 9—Comparative psychiatric register admission age adjusted rates: by disorder and class of inpatient facility (July 1, 1962-June 30, 1963)



two inpatient rates (Figure 9). The drift of the chronic schizophrenic from the nonstate to the state facility has been observed in an earlier study.[4] In Maryland, the fewer general hospital beds per 100,000 population (Table 2) is reflected in lower admission rates for each diagnosis, particularly schizophrenia, and little movement between state and nonstate facilities. In both registers the nonstate facilities treated more depressive patients, but fewer seniles and alcoholics, and female rates exceeded male for both depressions and schizophrenia. This contrasts with the higher male schizophrenia rates to state hospitals.

Private Outpatient Practice

Before discussing these findings we might look at the private practitioner's contribution to community psychiatric resources. Only Monroe County obtains reports on a significant portion of private outpatient practice and consultation. Private patients on July 1, 1963, numbered 177 per 100,000—about two-thirds as large as clinic prevalence (270). The admission rate was 232, or half as high as clinic admissions (467). Private rates in the central city were higher than in other areas for admissions, but lower for one day prevalence; this probably reflects the suburban practice of private psychiatry which tends to be long-term treatment, as compared with the large consultative service to agencies in the big urban area.

Relatively few children and older aged persons were admitted to private care (Figure 10). Total rates were higher for females than for males, due not only to the greater use by women of private practice but also to the small proportion of child patients among whom males

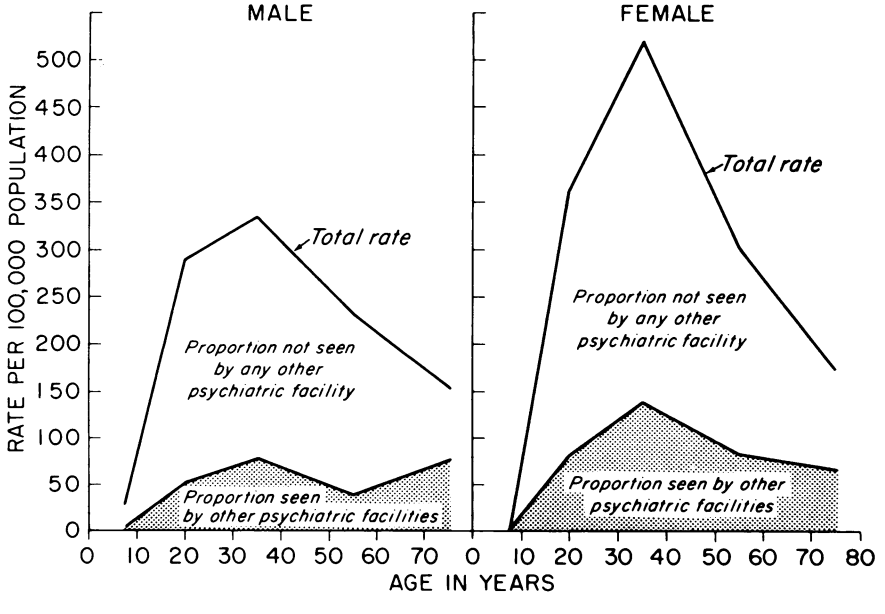
predominate. Nonwhite admission rates were about three-fifths as high as white rates but very few nonwhites were reported in one day prevalence. Evidently nonwhites are seen by private psychiatrists primarily through consultation or diagnostic service only to agencies such as courts and welfare.

Excluding private practice, the one-year total psychiatric admission rate for Monroe County was 807 per 100,000; including private practice, 983. That is, approximately 18 per cent of all persons admitted to psychiatric service were admitted only to private practice. Similarly the estimated total one-year psychiatric prevalence rate without private outpatient practice was 1.5 per cent compared to 1.9 per cent with this community resource. Or looking at these data in another way: 76 per cent of the private admissions were not admitted elsewhere and would have been "missed" if reports from the private sector had not been obtained. Figure 10 shows that the proportion "missed" varied with age and sex, being greatest for adult women aged 25-44 and least for older persons. Many of these women were from the suburban area and diagnosed with depression.

Discussion

Carefully controlled comparisons of psychiatric service data for different geographic areas can help to indicate common patterns of utilization of resources as well as illuminate variation. Certain differences can be readily explained by special facilities and programs: for example, Hawaii's program for mentally retarded females and psychiatric teams in the rural islands; the limited number of general hospital beds, balanced to some extent by private hospitals, in Maryland; the network of rural clinics primarily for children in Maryland; the accessibility of most parts of Monroe County and Tricounty to the resources of the university cen-

Figure 10—Admission rates to private psychiatric outpatient practice: by sex and age, Monroe County, N. Y. (July 1, 1962-June 30, 1963)



ters; the marked tendency in Monroe County to use inpatient services for the elderly (data are not available on nursing bed complements); interarea differences in pathways to the state hospital and in the provision of aftercare services. Despite the markedly different communities and resources, our data show many similar patterns. This partly reflects some universal features of resources; for example, each area has immediate placement in state mental hospitals, but a waiting list for beds in state retarded institutions. Partly, it indicates certain consistencies in population needs, attitudes, and referral patterns.

Between 1 to 1.5 out of every 100 persons received psychiatric services in a public or private inpatient or outpatient facility in a year. Between 0.6 to 0.85 were under care on a specified day (July 1), more than half as inpatients. Between 0.4 to 0.8 were admitted to care annually, half or more as outpatients. There is fairly consistent variation in these parameters by age, sex, race, and central city versus other residence. For Monroe County also, it is known that an additional 0.4 out of every 100 were seen only by a private psychiatrist during a year.

While many of these findings could be discussed, it would seem most timely and relevant to the recent unrest, crime, and other problems in our large cities to focus on the nonwhite and central city patterns of mental illness and psychiatric care. These findings are also our most consistent.

Previous studies have indicated high nonwhite admission rates to state hospitals. Hollingshead and Redlich have shown however that the low socioeconomic group tends to utilize public facilities and the high socioeconomic group, private facilities.[5] Therefore it has not been certain whether an excess nonwhite hospital rate is found when all types of hospitals are included. Our study, using data from all facilities, shows clearly that hospitalization as an index of serious psychiatric disability is greater for nonwhites. During a year, as a group, nonwhites have a 30 to 80 per cent greater risk than whites of becoming seriously incapacitated. Particularly vulnerable are the nonwhite males. A relatively high nonwhite rate is found for every major category of mental disorder with the exception of depressive reactions. Also nonwhite patients spend more days per year in public mental hospitals and institutions for the retarded.[6]

To some extent, the phenomenon of high total nonwhite rates is also a phenomenon of the central city. Within Baltimore City there are no major differences by race in over-all hospital admission rates, and in Rochester the total nonwhite rate is only 30 per cent higher than the white (Table 7). But a much greater proportion of nonwhites than of whites live in the large central city where hospital rates tend to be higher than in more rural areas (two to four times higher for whites and 1.2 to 1.5 times higher for nonwhites).

In some way, therefore, poverty, overcrowding, ghetto living, and other aspects of the central city syndrome are closely associated with high rates of institutionalization, for both whites and nonwhites. Whether such ecological factors are related causally to mental disability or are its sequelae cannot be determined by this study. The mental health status, along with economic and other characteristics of the white person, is likely to influence his migration to the suburbs, or his retention or "drift" to the city slums. This choice of migration is generally unavailable to the Negro. He cannot readily relocate to better housing. A disadvantaged environment, rural or urban, is usually antecedent to his mental illness and, in

fact, probably has been present all his life. It is apparent that serious mental illness with concomitant sequelae such as hospitalization (1.5 to 2 out of every 100 adults are hospitalized each year) adds further disruption to other aspects of family instability and disorganization within the inner city, thus contributing to social maladjustment in the next generation.

How can the disadvantaged nonwhite and white city dweller be assisted to terminate this cycle? To better housing, education, and economic opportunity must be added better health services and in particular preventive and rehabilitative mental health services in the community. Note that the nonwhite child is less likely than the white to come to a child guidance clinic; nonwhite children and adults have shorter clinic stay[7,8]; nonwhite males on convalescent leave make less use of aftercare services; and nonwhites are less likely to be admitted to a private or general hospital in the early stages of mental illness or to receive private outpatient treatment.

These differences for nonwhites in the more northern areas are found perhaps to a greater extent in the South. A very high prevalence in state hospitals in Tricounty contrasts with a very low prevalence in clinics at every age (Figure 4). There were similar findings in a study comparing Maryland and Louisiana first admission rates.[9] (One possible explanation suggested is

Table 7—Psychiatric admission rates* and one-day prevalence, all inpatient facilities, by central city and other areas, sex and race, Maryland and Monroe County, N. Y., psychiatric registers

Place of Residence and Sex-Race Group	One Year Admissions to All Inpatient Facilities† (July 1, 1962-June 30, 1963)		One Day Prevalence, All Inpatients (July 1, 1963)	
	Maryland	Monroe County, N. Y.	Maryland	Monroe County, N. Y.
Total state	316	450	332	407
White male	317	446	331	418
White female	289	420	284	379
Nonwhite male	474	964	531	834
Nonwhite female	302	611	406	546
Central city	456	619	543	609
White male	544	697	630	665
White female	385	534	483	540
Nonwhite male	539	944	560	814
Nonwhite female	345	608	437	542
Other areas	264	272	242	169
White male	259	220	239	156
White female	263	309	214	184
Nonwhite male	371	‡	485	‡
Nonwhite female	225	‡	353	‡

* Age adjusted rate per 100,000 population.
† Includes returns from long-term leave.
‡ Data not shown for fewer than 25 cases.

that the nonwhite in the Southern city is of more recent rural origin and therefore less sophisticated in his use of community resources. This hypothesis is being investigated further. However, preliminary analysis of 1960 Census data suggests that Rochester has the highest nonwhite in-migrant proportion from nonmetropolitan areas and from the South.) The one exception to the high inpatient rates for nonwhites in the South is the relatively few nonwhite alcoholics in hospitals, attributable in part to lack of facilities.

The Community Mental Health Centers Act of 1963 fosters the removal of discrimination barriers in the delivery of community mental health services, since eligibility cannot be restricted on the basis of race, creed, or color. All state hospitals in the study areas have now been integrated, tending to assure the same personnel ratio for white and nonwhite patients; this has not been true in the past. Intensive treatment will help to prevent chronicity. Perhaps the greatest need, however, is for attitudinal changes: of the community toward the Negro, of the Negro in asking for help for himself and his children, of community agency workers toward earlier case finding and referral, and of the clinic professional mental health worker toward the particular problems of the Negro—for example, willingness to provide clinic service in the evening, when the nonwhite child and his working parents can be more readily served.

The training of additional nonwhite psychiatric professionals and the current use of indigenous nonprofessionals[10] can help to bridge the cultural gap in communication. Additional experimentation is needed in ways of reaching the hard core multiproblem family through: extended mental health education and consultation to schools and other caretaker agencies, provision of mental health services in these facilities where possible, relocation and decentralization of mental health services, and provision of a broad spectrum of community-based services to meet particular needs. As one example, the Monroe County register findings on the extent and location of pockets of multiproblem families stimulated the creation of an interagency mental health team. This team extends into the neighborhood, visiting families at home and providing coordinated services.

Registers will help to document the effectiveness of these new approaches in services by providing baseline data for comparison with emerging trends. This study will be repeated perhaps in 1970, when rates by marital status, household composition, education, and occupation will be possible from census data and from data now being collected routinely on patients. More "mature" registers also can better identify the new case coming under care for the first time, as well as the chronic case with repeated admissions or continuous stay. In addition to admission rates, differential release and death rates by disorder, sex, race, marital status, and other characteristics, determine the number present on a given day. To further study this aspect, interregister cohort analyses are planned, including the study of the flow of patients from one type facility to another.

Recent attempts to achieve greater standardization of reporting procedures and working definitions uniquely needed for register operations will reduce costs and aid in controlled comparisons.[11] Comparative studies based upon register data for delimited populations, supplemented by field sample investigations, will extend the value of each register and contribute to our knowledge of psychiatry and epidemiology.

ACKNOWLEDGMENTS — Particular thanks is due Mrs. Helen E. Smith and Mrs. Warnilla

A. Cook of the Office of Biometry, National Institute of Mental Health, for their assistance in this project.

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This paper was presented before a Joint Session of the Mental Health and Statistics Sections of the American Public Health Association at the Ninety-Third Annual Meeting in Chicago, Ill., October 18, 1965.