

Outcome of First Hospitalization of Patients With Schizophrenia

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SCHIZOPHRENIA is the diagnosis made on 23 percent of all first admissions to public prolonged-care hospitals for mental disease in the United States (1). A previous report presented the characteristics of 6,072 patients so diagnosed on first admission to the Ohio State public mental hospitals during the period January 1, 1948, through June 30, 1952 (2). Of these 6,072 schizophrenia patients, 5,781, or 95.2 percent, were in the age group 15-54. The study concentrated on these ages dichotomized thus: 15-34 and 35-54.

This report presents the probability of complete and formal discharge of these patients during the 5 years following admission by such factors as age, sex, race, residence, marital status, education, occupation, and religious affiliation. Deaths during the 5-year followup period were few, numbering 91, or 1.6 percent, of the 5,781 patients in the study group. Therefore, those not discharged could be considered as on the books of the hospital although not necessarily in hospital residence, since many may be on extramural status. The analysis utilized the modified life-table technique (3, 4).

Interstate comparisons are omitted because they may be invalid "unless more is known about variations in practice within mental hospitals of the different States and differences in the way these hospitals are used by the communities they serve" (5).

Probability of Discharge

Age. Regardless of sex, race, or residence, the probability of discharge is greater among those in the 15-34 age group than in the 35-54

age group (table 1). Discharge probabilities were generally alike for the two sexes. Among those from the metropolitan area, both sexes in both age groups showed whites with an initial higher rate of discharge than the nonwhite group, but the difference decreased over time and was not as marked by the end of the fifth year. Initially discharge rates also were substantially higher among those from metropolitan areas than among those from nonmetropolitan areas, yet the fifth year showed only minor differences.

In general, discharge occurred mainly during the first 2 years, particularly the first 6 months among those from metropolitan areas. Patients from nonmetropolitan areas showed relatively sizable rates of discharge between the second and fifth years following their admission.

Marital status. Married patients usually had higher discharge rates than patients in the other marital categories (table 1). Among single patients discharge rates for white men and women from metropolitan areas were similar, but among the nonwhites and those from nonmetropolitan areas, the discharge rates for women were higher. Among the married the discharge rate was higher for white women from metropolitan areas than for white men, but for nonwhites the men had higher rates than the women. The rates were similar for both sexes coming from nonmetropolitan areas.

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Table 1. Rate of discharge of first admission patients with diagnosis of schizophrenia admitted to Ohio State public mental hospitals by residence, sex, race, and specified variable, January 1, 1948—June 30, 1952

Residence, sex, and race, by variable	Number in cohort	Percent discharged within—			Residence, sex, and race, by variable	Number in cohort	Percent discharged within—		
		6 mo.	2 yr.	5 yr.			6 mo.	2 yr.	5 yr.
AGE				EDUCATION—Con.					
<i>Metropolitan</i>				<i>Metropolitan—Con.</i>					
White male:					Nonwhite female:				
15-34.....	972	48.3	72.6	79.2	8th grade.....	125	18.4	41.6	64.0
35-54.....	509	39.8	63.5	70.3	High school.....	180	40.0	68.3	75.0
White female:					<i>Nonmetropolitan</i>				
15-34.....	1,251	48.4	74.8	81.6	Male:				
35-54.....	763	40.5	67.0	75.9	Less than 8th grade....	111	22.5	40.5	48.6
Nonwhite male:					8th grade.....	205	22.4	55.1	68.3
15-34.....	292	40.1	68.2	77.7	High school.....	311	30.5	63.0	78.1
35-54.....	98	34.7	59.2	66.3	Female:				
Nonwhite female:					8th grade.....	190	26.3	55.8	67.4
15-34.....	319	39.5	66.5	74.9	High school.....	479	32.4	67.2	74.9
35-54.....	141	27.7	60.3	71.6	OCCUPATION				
<i>Nonmetropolitan</i>				<i>Metropolitan</i>					
Male:					White male:				
15-34.....	412	29.9	63.1	75.2	Professional, semi-				
35-54.....	262	23.7	51.9	65.3	professional, and				
Female:					managerial.....	95	49.5	78.9	83.2
15-34.....	487	34.7	70.0	78.0	Clerical and sales.....	135	45.9	68.1	72.6
35-54.....	275	24.7	58.9	69.8	Craftsmen.....	247	45.3	70.4	76.1
MARITAL STATUS				Operatives.....					
<i>Metropolitan</i>				Laborers.....					
White male:					White female:				
Single.....	850	45.5	67.4	74.2	Clerical.....	251	38.2	68.9	76.1
Married.....	506	43.9	72.3	79.1	Sales, operatives, and				
Separated and					craftsmen.....	114	42.1	65.8	72.8
divorced.....	156	48.1	67.3	75.0	Personal, protective,				
White female:					building services.....	96	43.8	66.7	69.8
Single.....	670	39.6	66.3	72.8	Housewife.....	1,089	49.0	75.9	84.2
Married.....	1,100	51.3	78.3	85.8	Nonwhite male:				
Separated and					Laborers.....	151	37.7	64.9	72.2
divorced.....	268	35.8	58.2	69.4	Nonwhite female:				
Nonwhite male:					Housewife.....	211	34.6	64.0	73.5
Single.....	205	37.1	63.4	71.2	<i>Nonmetropolitan</i>				
Married.....	106	39.6	70.8	81.1	Male:				
Nonwhite female:					Farmers.....	133	27.8	55.6	69.2
Single.....	102	43.1	68.6	77.5	Laborers.....	213	19.7	51.6	63.4
Married.....	233	35.6	66.5	76.4	Female:				
Separated and					Housewife.....	445	35.5	68.5	76.9
divorced.....	107	29.0	59.8	70.1	RELIGION				
<i>Nonmetropolitan</i>				<i>Metropolitan</i>					
Male:					White male:				
Single.....	377	23.6	51.2	64.5	Protestant.....	836	45.7	68.8	75.5
Married.....	240	32.1	67.9	81.2	Roman Catholic.....	566	44.3	69.3	76.0
Female:					White female:				
Single.....	226	27.0	61.1	70.4	Protestant.....	1,235	42.8	69.3	78.8
Married.....	468	34.4	70.5	78.0	Roman Catholic.....	747	46.3	73.1	77.6
EDUCATION				White male and female:					
<i>Metropolitan</i>				Jewish.....					
White male:					Nonwhite male:				
Less than 8th grade....	194	38.7	59.3	67.5	Protestant.....	351	36.5	64.7	73.8
8th grade.....	292	34.7	58.2	67.7	Nonwhite female:				
High school.....	717	48.0	71.8	78.0	Protestant.....	428	35.3	64.5	74.3
College.....	169	52.7	76.9	79.9	<i>Nonmetropolitan</i>				
White female:					Male:				
Less than 8th grade....	173	37.0	63.6	72.8	Protestant.....	576	27.1	56.2	70.7
8th grade.....	407	35.1	61.7	71.7	Roman Catholic.....	93	28.0	65.6	69.9
High school.....	1,097	47.6	72.2	79.6	Female:				
College.....	204	44.6	71.1	80.9	Protestant.....	670	30.3	65.8	74.3
Nonwhite male:					Roman Catholic.....	114	33.3	65.8	76.3
High school.....	137	36.5	67.2	75.9					

NOTE: Data are presented only for those categories having a minimum of 90 admissions during the 4½-year period January 1, 1948—June 30, 1952. The report, however, does discuss some of the omitted categories.

White men from the metropolitan area who were single, separated, or divorced had higher discharge rates than nonwhite men with the same marital status, but for those who were married the rates were similar. Nonwhite single females had a slightly higher discharge rate than married, separated, or divorced nonwhite females, but the white married females did better than those in the other marital categories. The discharge pattern for the separated and divorced was erratic, but the rates at the end of the fifth year were alike.

Education. The probability of being discharged was usually better for those with some high school or college than for those with lesser education (table 1). Neither sex nor race was a factor of consequence when associated with education for discerning differential rates of discharge. No one pattern characterized rates of discharge by residence. Generally, rates for those from metropolitan areas were initially better, but subsequently some of the rates became equated or the fifth year showed higher rates for those from the nonmetropolitan areas.

Occupation. Among white men from metropolitan areas, those in the occupational groups classified as professional or semiprofessional had the best chances of being discharged (table 1). Rates for all other occupational groupings including laborers were largely alike. Among men from nonmetropolitan areas the discharge rates were low for laborers and farmers and high for operatives (mechanics, carpenters, electricians).

Among women, housewives had the best prospects for discharge. In general, domestics had

the poorest discharge prospect. Rates by race and the several other variables showed no conclusive pattern, and the disparity in rates was slight by the end of the fifth year. The rate of discharge among housewives was significant, the discharge rate among whites being higher than among nonwhites. Among men, discharge rates were usually better initially among those from metropolitan areas than among those from nonmetropolitan areas, but, with the exception of laborers, the difference was not maintained for the full period of observation.

Religion. Protestant and Roman Catholic white men and women from metropolitan and nonmetropolitan areas showed similar rates of discharge, but among nonwhites Roman Catholics had a lesser likelihood of being discharged. The probability of being discharged 5 years following admission was most unfavorable for Jews (table 1). For those from metropolitan areas, condition on discharge was comparable for Protestants and Roman Catholics. Protestants and Roman Catholics from metropolitan areas had similar discharge rates by sex, but women from the nonmetropolitan areas did slightly better than men in both groups. Again, rates of discharge were poorer among nonwhites than whites from metropolitan areas and better for those from metropolitan areas than for patients admitted from nonmetropolitan areas.

Condition on Discharge

Analysis of the data dealing with the psychiatric condition at discharge did discern several consistent patterns. Thus, for factors such as

Table 2. Percentage distribution of actual hospital stay by time on books of patients with a diagnosis of schizophrenia admitted to Ohio State public mental hospitals, January 1, 1948–June 30, 1952

Actual hospital stay (years)	Interval in years between admission and discharge or death (time on books)						
	0-0.5 (N=2,446)	0.5-1 (N=673)	1-1.5 (N=665)	1.5-2 (N=363)	2-3 (N=292)	3-4 (N=166)	4-5 (N=97)
0-0.25.....	75.4	15.9	43.9	10.7	14.0	9.0	8.2
0.25-0.50.....	24.6	28.4	42.8	44.4	25.0	16.9	9.3
0.50-1.0.....		55.7	6.8	38.6	31.8	19.3	14.4
1-2.....			6.5	6.3	22.9	29.5	27.8
2-3.....					6.2	15.1	12.4
3-4.....						10.2	14.4
4-5.....							13.4

age, marital status, education, occupation, and religious affiliation a larger percentage of men than women, of nonwhite patients than white patients, of patients from metropolitan areas than patients from nonmetropolitan areas were classified as unimproved at time of discharge.

Among patients from the metropolitan areas both age groups had similar percentage distributions of condition on discharge, but among patients from the nonmetropolitan areas those aged 35-54 had a larger percentage classified as unimproved than did those aged 15-34.

Analysis by marital status showed that the married patients had the lowest percentage whose condition on discharge was unimproved. Analysis by level of educational attainment showed no consistent pattern. The factor of religious affiliation showed that Jews had the largest percentage whose condition was unimproved at time of discharge.

Actual or Net Time in Hospital

Schizophrenia patients spend substantially less time in the hospital than indicated by the interval between admission and discharge. Thus, 56 percent of those in the interval one-half to one year between admission and discharge actually spent that much time in residence (table 2). Only 6 percent of those in the admission-discharge interval 2-3 years actually were in the hospital for such a length of time, whereas almost 40 percent spent less than one-half year in the hospital.

Discussion and Summary

Among 5,781 patients with a diagnosis of schizophrenia and hospitalized in any mental hospital for the first time when admitted to an Ohio State public mental hospital during the period January 1, 1948, through June 30, 1952, complete discharge occurred in relatively substantial numbers quite soon after admission.

Generally, discharge occurred sooner or somewhat more frequently among those from metropolitan areas than among those from nonmetropolitan areas, in the younger age group than in the older, and among housewives than among employed women. The married patient, those in professional and semiprofes-

sional occupations, and those with more education had the best chances of an early discharge.

Discharge rates by sex or by race were fairly similar. In almost all instances, however, there were exceptions, and many of the patterns were either erratic or inconsistent so that many of these generalizations have qualified application.

Some 40 percent of these schizophrenia patients were discharged within 6 months of admission, while nearly 70 percent were discharged within 2 years. Nevertheless, approximately 22 of every 100 schizophrenia patients had not been discharged 5 years after admission. Since some of those discharged relapse and are readmitted to the hospital, it seems reasonable to suppose that at least 30 percent of those admitted were still on the books of the hospital 5 years later.

However, actual time spent in the hospital was substantially less than the period patients were carried on the hospital books.

All of these patients were admitted prior to the use of tranquilizers, and few received tranquilizers during the study period. Also, there have been considerable changes in professional and community attitudes toward treatment of the mentally ill. A study of schizophrenia patients admitted to the Ohio State public mental hospitals in the years around the 1960 census is planned, and the findings will be compared with those presented in this report.

REFERENCES

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Dietary Food Regulations

The Food and Drug Administration recently called for a major overhaul of the regulations covering vitamin, mineral, and other dietary supplements, baby foods, low-sodium foods, low-calorie and artificially sweetened foods, hypoallergenic foods, foods for use in dietary management of disease, and all other foods represented as having special dietary properties.

The proposed regulations are designed to provide complete and reliable label information to the consumer to facilitate intelligent purchase and use and to help eliminate false and misleading claims, according to FDA Commissioner George P. Larrick.

The following principal changes are proposed:

Labels on vitamin and mineral food supplements would be allowed to claim specific dietary value only for those nutrients generally recognized as essential and which are likely to be of value in the amounts provided. Consumers now encounter supplements containing as many as 50 to 75 ingredients of which only a few have been shown to be of any value, according to the FDA.

If a nutrient is subject to deterioration, the manufacturer would be required to show the expiration date on the label.

Present regulations require that foods offered as sources of certain vitamins and minerals show the proportion of the "minimum daily requirement" present. It is proposed that the term "daily requirement" be used instead of "minimum daily require-

ment," which has been misunderstood by consumers and has encouraged some manufacturers to add needlessly large amounts of vitamins and minerals.

Foods for use in reducing diets would have to show the number of calories in a 1-day supply. The amounts of fat, carbohydrates, and protein would also have to appear. The statement, "useful only when used as a part of a calorie-controlled diet," would be required on the label.

The maximum number of calories allowable in foods described as "nonfattening" would be 5 per serving or 10 in a 1-day supply. The maximum number for a "low-calorie" food would be 15 per serving or 30 in a 1-day supply. Foods described as "lower in calories" would be required to show the name and caloric content of the food with which it is compared.

Artificially sweetened foods would have to show the number of calories saved as compared with the same food with natural sweetening. If the calorie difference is insignificant, artificial sweetening should not be used.

Special claims with respect to the protein content of foods would be limited to a "good" or "excellent" source of protein as determined by a method prescribed in the proposed regulations. According to the FDA, U.S. protein consumption is more than 100 grams per person daily, whereas the average adult needs only about 30 grams of the proteins supplied by the ordinary diet.