

Stability in Psychosis Admission Rates

Three Decades of Navy Experience

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PSYCHIATRIC nosology continues to be subjected to careful scrutiny and at times even condemnation (1). Yet some taxonomic order is necessary for rational patient care, comparability of research findings, and administrative planning. A group of disorders designated as psychotic by psychiatrists appear to have a certain uniqueness and stability which suggest that they are, in fact, discrete entities, not myths or portions of a continuum. Studies of civilian populations have indicated the general long-term stability of first admission rates for psychosis (2, 3).

The rate of new admissions for psychotic disorders in the U.S. Army also remained relatively constant for a period of 34 years from 1920 to 1954 (4-6). Changes in the size and composition of the Army, changes in policy, medical and administrative procedures, and cataclysmic events such as the great depression, World War II, and the Korean war were said not to have affected Army psychosis admission rates in any gross fashion. The rate "varied little from 2.8 per 1,000 troops per annum during this period," with the diagnosis of schizophrenia making up the bulk of the category (6).

The admission rate for insanity or gross psychosis in the Royal Navy was approximately 1 per 1,000 per year from 1809 to 1814 (7). The cases counted were all felt to be of the certifiable variety.

In the U.S. Navy during the 1930's, the last prewar years, the first admission rate for all psychotic disorders varied from 0.75 to 1.01

admissions per 1,000 active duty Navy men per annum (8a). The mean was 0.88 with a standard deviation of 0.074. The strength of the Navy (and Marine Corps) during this decade ranged from 117,453 to 149,618 officers and men. The percentage of new entries varied from 8.1 percent to 25 percent in 1939 of average total strength per year. The Navy was able to exercise high selectivity, as the percentage of men accepted for enlistment varied from 5.2 to 15.9 percent of all applicants. Total invaliding rates for all disabilities during the first year of service were very low, varying from 1.2 percent to 7.2 percent of all enlisted men, as compared with a current invaliding rate for all enlisted men in the first year of 8.9 percent.

The strength of the Navy rose from 149,618 in 1939 to 2,717,939 in 1945, an eighteenfold increase in size. In 1948, the Navy's strength fell to 508,081, rising to 1,052,145 in 1953. In 1960, it was 815,928, a figure which has remained relatively steady since the end of the Korean war.

During World War II and the Korean war, the psychosis admission rate had a range of 1.23 to 1.72 per 1,000 per annum with a mean of 1.47 and standard deviation of 0.17 (table 1). In the years subsequent to 1953, the mean admission rate for psychotic disorders was 1.02 per 1,000 per year with a range of 0.9 to 1.23 and a standard deviation of 0.09. In the 5 years from 1957 through 1961, it was 0.96 with a range of only 0.94 to 0.98. Of all the psychotic reactions, schizophrenia was by far the most common, accounting for 70 to 82 percent (72 percent in 1938 and 82 percent in 1961) of the total number of psychotics admitted to naval hospitals. Curiously enough, the num-

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Table 1. First admission rates for psychosis per 1,000 U.S. Navy active duty personnel and range of rates by epoch

Population and interval	Mean rate	Range of rates
Prewar 1930-39.....	0. 88	0. 75-1. 01
Wartime 1942-45, 1951-53.....	1. 47	1. 23-1. 72
Postwar 1953-61.....	1. 02	. 90-1. 23

ber of days in the hospital per case of schizophrenic psychosis has hardly varied (137.2 in 1935, 135 in 1959) during this whole period.

Discussion

The Navy is an open-ended institution with accession and attrition occurring constantly, but by no means at the same rate. During the 1930's, and to a lesser extent at present, the system was in relative equilibrium with approximately 10 to 15 percent accessions and losses per year. During the war period there was a parallel increase of approximately 80 percent in both Navy and national admission rates for psychosis, comparing the 1945 rate to the 1939 rate (2; tables 1, 2).

At that time the Navy's strength increased manyfold each year, making a constantly changing population at risk. On January 1, 1943, for example, 53.4 percent of Navy enlisted men had less than 6 months' service (8b). Since more than half of those admitted with psychotic disorders had less than 2 years of active service, it may be the dilution factor alone which can account for the parallel rate increase during the war.

The age composition of the institution is one important characteristic which has remained the same over the years. The Navy has always been predominantly a young man's organization. During the last 30 years more than two-thirds of the enlisted men were under 30 years old, and the mean age of all enlisted men ranged between 21 and 23.5. More than 75 percent of the entire Navy, officers and enlisted men, have been less than 35 years of age at any point during this time. Figures for other important demographic variables such as race, nativity, and marital status are not available for the entire period.

It is probable that the naval statistics represent quite well the actual number of cases of gross psychosis appearing in the naval population during this period. Hospital beds must, by regulation, be available for all sick Navy men, so their number is not a limiting factor, as is the case in other environments. Financial considerations are not deterrents to hospital admission. The close living conditions of naval service insure the prompt detection of seriously deviant behavior. Since the patients are hospitalized in excess of 3 months, on the average, a considerable body of data substantiating the diagnosis is accumulated. Diagnoses have been made according to written criteria, such as the Joint Armed Forces Nomenclature on Psychiatric Diagnoses, and have generally been reviewed by several different medical officers. Therefore, the hospital psychosis admission rates may be considered to be close approximations of the actual number of new cases occurring in the naval service during a stated time interval.

The admission rate per 1,000 for psychoneuroses and for character and behavior disorders have shown immense fluctuations: the rate for all psychoneurotics was 1.06, and for character disorders, 0.34 in 1935; in 1943, the psychoneuroses rate was 5.35, a fivefold increase, and the character disorders rate was 3.8, an elevenfold increase. In 1955, these rates were 3.46 and 5.24, respectively. The contrast with psychotic disorders is striking.

Summary and Conclusions

In the peacetime Navy, an institution of young men with a relatively low annual turnover, the admission rate for psychosis will re-

Table 2. First admission rates per 1,000 population, by age group, all U.S. mental hospitals, 1939 and 1945

Age group (years)	Males (psychotic disorders) ¹		All admissions	
	1939	1945	1939	1945
20-24.....	0. 463	0. 883	0. 775	1. 542
25-29.....	. 501	. 802	. 909	1. 443

¹ SOURCE: Reference 2.

main steady at approximately 1 admission per 1,000 men per annum. In a wartime situation where the organization is overwhelmed with a fresh population at risk, but also consisting of young men, the rate may be expected to increase by an amount made significant by the very large numbers of persons involved. For example, a rise in the rate from 1 to 1.5 per 1,000 per year in a 3-million-man force means an additional 1,500 cases to be treated. For those charged with the responsibility of providing psychiatric services for the Armed Forces, these figures should serve for planning purposes, both in peacetime and in the event of a rapid mobilization. Finally, the naval data should be of interest to those involved with other institutions of young people, such as colleges, where psychosis continues to be a medical problem.

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Retardation Study Unit

The National Institute of Child Health and Human Development, Public Health Service, is establishing a mental retardation diagnostic and study unit in cooperation with the Pediatric Service of the U.S. Naval Hospital.

The unit will conduct clinical research on the biomedical and behavioral aspects of mental retardation, including complete diagnostic studies, parent counseling and guidance, and selected educational and therapeutic procedures for the retarded and their families.

The new facility will be set up on the grounds of the National Naval Medical Center in Bethesda, Md. Children and families studied will be those who are eligible to receive medical services at the hospital or are referred by other military medical facilities in the Washington, D.C., area.