

NEW YORK MEDICAL COLLEGE  
DEPARTMENT OF PREVENTIVE MEDICINE

EPIDEMIOLOGY

Prevalence of Mental Disease

I. Size of the Problem

In 1961 the Joint Commission on Mental Illness and Health reported the results of a 1-1/2 million dollar 5-year study of psychiatric care in the United States. The Commission was created following passage of the Mental Health Study Act of 1955 for the purpose of "carrying out a program of research into and study of our resources, methods, and practice for diagnosing, treating, caring for, and rehabilitating the mentally ill...." Among the arguments presented for passing the Mental Health Study Act were the following:

1. Some 750,000 mentally ill and retarded patients are now being hospitalized on any given day.
2. Forty-seven per cent of the hospital beds in the nation are occupied by mental patients.
3. The direct economic cost of mental illness to the taxpayers of the nation is over \$1,000,000,000 a year and has been increasing at a rate of \$100,000,000 a year.

The Mental Health Study Act signalled federal recognition in 1955 of the need for the solution of the "constantly growing burden" of mental disease.

Is the amount of mental illness growing? This question has preoccupied many psychiatrists, social scientists, statisticians and planners. Malzberg studied the changes which occurred in the number of patients in mental hospitals in the U.S. from 1880 to 1936. In these 56 years the number of patients increased 10 fold, and the prevalence rate per 100,000 population quadrupled.

<u>Year</u>	<u>Number of Patients in Mental Hospitals</u>	<u>Prevalence Rate per 100,000 Population</u>
1880	40,942	81.6
1890	74,028	118.2
1904	150,151	183.6
1910	187,791	204.2
1923	267,617	245.0
1936	432,131	335.3

QUESTION

1. Would you conclude from this table that the amount of mental illness in the U.S. increased in that half-century? Give reasons for your answer.

The Public Health Service, reviewing 10 years of the Hill-Burton Hospital and Medical Facilities Program, presented the following information for the year 1956.

<u>Type of Hospital</u>	<u>Total Existing Beds for Inpatient Care</u>
General	677,044
Tuberculosis	105,609
Mental	578,809
Chronic	48,915
All Hospitals	<u>1,410,377</u>

QUESTIONS

2. What does this table tell you about the prevalence of mental illness?
3. Assuming full occupancy, compare the number of hospital beds for mental illness in 1956 with the number of mental hospital patients in 1936. Does this suggest to you that mental illness was increasing during this time? Give reasons for your answer.

In addition to hospitalized mental patients, Bahn and Norman estimated that a total of 379,000 patients attended mental health clinics for varying periods during 1955.

QUESTION

4. Having counted all patients in mental hospitals and mental health clinics, what further information would you need to determine prevalence rates of mental disorders?

Hollingshead and Redlich of Yale University attempted to carry out a census of psychiatric patients residing in greater New Haven, Conn., between June and December, 1950. A patient was defined as "any person in treatment with a psychiatrist or under the care of a psychiatric clinic or mental hospital." In a population of some 240,000 persons, the rate for treated mental disorder was about 8 per 1,000 population. Analysis of patients by treatment agency showed the following distribution:

<u>Treatment Agency</u>	<u>Patients in Each Agency</u>	
	<u>Number</u>	<u>%</u>
Private Practice	359	19.0
Private Hospitals	36	1.9
Public Clinics	155	8.2
State Hospitals	1260	66.6
Veterans Hospitals	<u>81</u>	<u>4.3</u>
Total	1891	100.0

It can be seen from this table that the census of mental patients readily identified in hospitals and clinics is raised by about 25% in New Haven when patients under private care are added.

QUESTION

5. What is the ratio in New Haven of mental patients cared for by private practitioners to those cared for by other means? Do you believe this experience is applicable to the nation as a whole?

## QUESTION

6. Does the addition of patients under the care of psychiatrists in private practice to those counted earlier provide a satisfactory census of the mentally ill? Explain.

It has been stated that the known prevalence of mental disease is to the true prevalence as the visible part of an iceberg to the submerged part. Some guess that 9 times as many persons as the number under treatment are mentally ill. For New Haven this would have meant that perhaps 17,000 persons had a diagnosable mental illness in 1950. In a population of some 240,000 persons, the prevalence rate for mental disorder at that time could thus have been estimated as 70 cases per 1,000 or about 7%. Application of this rate to the population of the United States yields almost 13 million mentally ill persons.

Realizing the discrepancy between the known and true prevalence of mental illness, a number of investigators during the thirties made total community surveys in various parts of Europe and the United States. The earliest such survey was done in 1930 by Carl Brugger in 116 villages in Thuringia with a total population of about 38,000. The area was mixed agricultural-industrial in character. Most of the people were Protestant. Brugger initiated this survey by questionnaires sent to physicians, clergymen, teachers and mayors in the area. Additional material was obtained by oral inquiries from the relatives of patients already known, and from the "older inhabitants" of the several villages. The files of hospitals, institutions and prisons were also searched. Almost all reported cases were personally seen and diagnosed by the author.

In the following years Brugger made two more surveys, one in five villages of the Bavarian Allgäu, and one in six villages near the town of Rosenheim. These two areas were predominantly agricultural and almost exclusively Catholic, with populations together totalling less than 9,000. Both studies combined are called the "Bavarian Survey." This investigation was much more intensive. The population was prepared by publicity in the local newspapers, by announcements from the pulpit by the parish priests, and by notices on the communal bulletin boards by the mayors. Subsequently every family in the area was visited by the psychiatrist. A fairly complete history was taken for each individual and the diagnosis was made on the basis of a personal examination. Reports from hospitals, institutions, physicians, teachers, etc., were utilized in checking the information given by the family.

In 1935 Erik Strömberg carried out a mental hygiene survey on the Danish island, Bornholm, in the Baltic Sea. It had a population of 46,000. The chief sources of income were farming, fishing, quarrying and tourist trade. Procedures in the Bornholm survey were closely patterned after Brugger's investigation in Thuringia. The records of mental and general hospitals, almshouses, and nursing homes were searched, and oral information was obtained from physicians, aldermen, clergymen, teachers, city officials, and "older inhabitants." Most cases were visited and examined by the author.

In the United States, large community surveys of mental health problems were carried out during the thirties in Baltimore and Tennessee. The Baltimore survey was aimed at identifying "all known maladjusted individuals" whose cases were "active at some time during the survey year." This survey was limited to the Eastern Health District, an area of about one square mile which serves as

the field laboratory of the Johns Hopkins University School of Hygiene and Public Health. Two studies were made here, one in 1933 by Cohen and Fairbank, and another in 1936 by Lemkau, Tietze and Cooper. In 1936 the Eastern Health District had 55,000 inhabitants of whom 33 % were Negroes. Among the whites, there were many families of Jewish and Czech extraction. The area for the most part was residential, and the income level for both white and Negro families was definitely below the average for the city. In Baltimore, there was no reporting of cases directly to the investigating group. Case finding was carried out entirely by perusal of the written records of various institutions and agencies. The total number of sources was 43, including, among others, public and private mental hospitals, training schools for mental defectives and for delinquents, psychiatric clinics, social agencies, certain departments of the public school system, the juvenile court, police and criminal courts, and the National Health Survey. In many of the cases thus discovered, a psychiatric diagnosis or a more or less complete description by a competent social worker was available. Others, however, were included on the basis of circumstantial evidence. Diagnosis, where not already given in the medical sources, was made from the written records after careful study of the data. No cases were personally examined by the staff psychiatrist.

The Williamson County survey, conducted by Roth and Luton, reported point prevalence of mental disorders as of September 1, 1938. Williamson County was a fairly typical agricultural county in middle Tennessee with an area of 586 square miles and a population of 25,000. About 78% of the people were native whites, mostly of English and Scotch-Irish extraction; 22% were Negroes. There was only one incorporated town, Franklin, with about 4,000 inhabitants. The material for the Tennessee survey was partly reported by key persons in the community - physicians, nurses, teachers, ministers, judges, postmasters, country storekeepers, etc. - and partly discovered by the field workers of the study, who spent years in the town participating extensively in many community activities of various kinds. This method of investigation, known as the "immersion technique," was used later by other investigators. Institutional records were also searched. Somewhat over half the cases were interviewed by one or more members of the staff which consisted of a psychiatrist, social workers and nurses.

The overall rates for mental disorders found in these various surveys are given in the table below.

<u>Year</u>	<u>Place</u>	<u>Population</u>	<u>No. of Cases</u>	<u>Rate/1,000</u>
1930	Thuringia	37,561	479	12.8
1930	Bavaria	8,528	517	59.9
1935	Bornholm	45,930	716	15.6
1936	Baltimore, Md.	55,129	3,416	62.0
1938	Williamson Co., Tenn.	24,804	1,721	69.4

#### QUESTION

7. How do you account for the differences in the prevalence rates found in the various surveys?

During World War II a neuropsychiatric examination was performed by a psychiatrist on each recruit called up for military duty by Selective Service. Psychiatric rejection rates in August, 1945 showed considerable variation among different parts of the country, ranging from 0.5 to 51% of selectees. The variations were as great within regions as between regions:

<u>City</u>	<u>%</u>
Pittsburgh	24
Philadelphia	7
Detroit	22
Chicago	8
Seattle	16
Portland	16
San Francisco	5

### QUESTIONS

8. In accounting for the differences in the psychiatric rejection rates, what explanations can be ruled out, and why?
9. What, then, are the possible explanations for these differences?

The high number of neuropsychiatric rejections and discharges from the armed forces preceded a phenomenal increase of interest in mental illness during the fifties. The discovery of ataractic drugs and the related administrative changes in the management of mental patients gave new hope for the control of mental illness. A number of investigators considered it timely to count the number of mentally ill persons in the community so that the mental health problem could be definitely measured and then attacked. Several major surveys were made during this time for the purpose of determining the prevalence of mental disorders in various communities.

One of the most extensive studies of community mental health was carried out by Alexander H. Leighton and a large team of investigators from Cornell University. The "central aim of this research," which was begun in 1950 was "to explore the meaningful relations between the distribution of psychiatric illness and the distribution of socio-cultural factors." To accomplish this aim it was considered necessary to discover the prevalence of mental disorders in the community.

### QUESTION

10. If such a relationship is found to exist, explain why you would or would not consider that these factors cause mental illness.

The fictitiously named Stirling County, a rural maritime area in eastern Canada with a population of approximately 20,000, half speaking French and half English, was selected for investigation. "This region," according to the authors, "was not thought to be unusually high in instances of psychiatric disorder." Within Stirling County, a town of 3,000 people called Bristol was surveyed by these investigators through the use of the "immersion technique" whereby the research team moved into and became members of the community, participating in every phase of its daily life. The team established a psychiatric clinic which rendered treatment to the town's inhabitants. The case

finding of mentally ill persons was done in two phases. The first phase involved a search of institutional records which uncovered 609 persons who had ever had a record of hospitalization for any cause. These persons were followed up by interview using a standard questionnaire.

Phase 2 of the survey was designed to answer the question: "Are there still any people (and if so, how many) in the population as a whole who are equally sick, but whose names do not appear on our lists?" To answer this question a random sample of about 20% of the people was selected. This was not strictly random since it was "weighted toward including people in the role of male or female heads of households."

This sample of people was interviewed in the same way as the institutional group. Data were collected from 283 respondents. Interviewing was done by 8 members of the research team: 3 men and 5 women. "Two of the group were psychiatrists and helped with the training and supervision of the others, who all had experience in administering sociological types of questionnaires." The interviews, described as leisurely, ranged from 45 minutes to several hours.

The questions asked related to common adult diseases and symptoms, including psychosomatic symptoms; psychiatric symptomatology; "family health; misfortunes; broken home; date of birth; extent and type of schooling; language and ethnic group identification; mental status and changes; place in family; migration history; number of children; religious affiliation; occupational history and attitudes; details of housing and possessions." Added were impressions by interviewer on "the type and condition of the house, the attitude of the respondent and other evaluative comments."

The information collected by questionnaire interview was supplemented by information from hospital records, from two general practitioners who knew the community intimately, and from other community sources.

Following the interview each subject discovered in the two phases of the search was classified according to his symptoms in the following categories:

- A. Symptoms almost certainly indicative of psychiatric disorder (been in a mental hospital, had a nervous breakdown, or described anxiety attacks).
- B. Symptoms probably indicative of psychiatric disorder (asthma, ulcer, colitis, allergic conditions, hypertension, "dyspepsia", sociopathic behavior, etc.; or where symptoms vaguely or inconclusively suggested psychoneurosis or psychosis).
- C. Symptoms which might be indicative of psychiatric disorder, a borderline category (exploratory operations, hysterectomies, thyroidectomies, neuralgias, chronic constipation, "not yet diagnosed", etc.).
- D. No evidence of symptoms suggesting psychiatric disorder (appendectomies, amputations, childbirth, etc.).

#### QUESTION

11. Are the authors justified in stating that asthma, ulcer, colitis, allergic conditions and hypertension are "probably indicative of psychiatric disorder"?

The subjects were then further classified within each category according to degree of impaired function. The scale used to indicate the amount of impairment was:

None  
Minimal - up to 10%  
Mild - 10% to 30%  
Moderate - 30% to 50%  
Severe - Over 50%

All of the data collected on each subject was then evaluated by four psychiatrists who knew the community well. The 1952 Diagnostic and Statistical Manual of the American Psychiatric Association was used as a guide for the classification of the subjects included in the survey. The subjects were also classified according to the degree of functional impairment.

This study is considered by the authors to indicate a "lifetime prevalence" of psychiatric symptoms in the Bristol community.

The findings of this survey are presented in the table below:

<u>Impairment</u>	<u>Rating</u>	<u>Number per 1,000 Adults</u>
More than 10%	A	370
	B	<u>110</u>
	A+B	480
Less than 10%	A	70
	B	<u>100</u>
	A+B	170
All degrees	A+B	650
	C(borderline)	210
	D(asymptomatic)	140

The authors concluded from this study: "We feel fairly sure that 370/1000 is the firm core for the prevalence figure for our population; that is, we could expect fairly general agreement among psychiatrists that the individuals represented in the 37% are psychiatric cases and that, whether under treatment or not, they need it."

Furthermore, they said: "If planning of psychiatric services for the community were under consideration, account would certainly have to be taken of the 37% with the expectation that some of the 'B, more than 10% impaired' (11%) would also appeal for help."

#### QUESTIONS

12. If you were planning a comprehensive program of mental health services for persons needing psychiatric treatment in New York City based on Leighton's findings for Bristol, how many of the 6 million people over 15 years of age would you plan to serve?
13. a. What is "lifetime prevalence" and b. do you accept this as a practical basis for mental health planning? Why or why not?
14. Assuming the findings of this study to be accurate, would you accept 37% as representing the prevalence of "firm core" mental illness in Bristol? Why or why not?

QUESTION

15. How may the interview method used in this study have introduced bias into its results?

In contrast to Leighton's research into psychiatric symptoms in a rural area, a group headed by Dr. Thomas A. C. Rennie of Cornell Medical School undertook an "interdisciplinary investigation" of mental health in "one of the most urbanized populations in the world" - Yorkville, called Midtown - a section of Manhattan comprising 180,000 residents. "Within this compact, densely settled area is found enormous socioeconomic diversity ranging from great wealth to the lower levels of poverty. Cutting across the middle and lower reaches of this socioeconomic stratification are concentrations of ethnic groups representing countries from almost the entire face of Europe. The largest groups in point of population numbers are those derived from Ireland, Germany, the British Isles, Italy, Czechoslovakia and Hungary." Non-whites constitute only 0.5% of the population.

Two principal types of field operations were used. The first was called the Treatment Census Operation. It involved case finding and was described as a search for residents of the area "appearing over a sample-time span on the records of institutions and private practitioners that deal with the more visible and 'social problem' forms of psychopathology."

The second operation, the Home Interview Survey, was directed at discovering the "ambulatory or latent sick" who had not come to the attention of public or private agencies. "To map the size and composition of this sub-surface part of the 'iceberg', a probability sample of the Midtown population aged 20-59 years was drawn. In the U.S. census of 1950, persons in this age range in the Midtown area numbered about 110,000. Using a sampling ratio of 17 per 1,000, 1,911 residents were drawn of whom 13% refused to participate. The final sample for the Home Interview Survey comprised 1,660 individuals.

QUESTION

16. What bias may non-participation contribute to the results?

To increase comparability of the interviews, certain procedures were standardized. Each respondent was given a single interview. This took place in the respondent's home with an effort to assure maximum privacy. A structured schedule of questions was administered by interviewers who were professionals with backgrounds in psychiatric social work, clinical psychology, social case work and social science. Special instructions were given the interviewers "not only to record the respondent's answer to each prepared question and his spontaneous elaborations and asides, but to report observations of his behavior and to probe replies and comments that were either ambiguous or suggestive as possible openings to matters of further significance." The investigators considered this interviewing method to be "certainly more freewheeling than the systematic but hasty review of possible symptoms that often characterize medical intake interviews." This flexibility, they believe, is attested to by the variation in time taken by the interviewers to complete interviews. The average interview time was 2 hours with a range from 1-1/4 to 4 hours.

The questionnaire included questions relating to the following areas:



1) History suggesting the probability of recent mental pathology ("nervous breakdown," seeking psychotherapy, epilepsy, etc.).

2) Gross somatic disorders often attributed to a psychogenic basis (arthritis-rheumatism, asthma, colitis, diabetes, hayfever, heart conditions, hypertension, hives or rashes, neuralgia-sciatica, and stomach ulcer).

3) Psychophysiologic manifestations (nervousness, restlessness, fainting spells, headaches, back pains, hand tremors, cold sweats, damp hands, feeling hot all over, insomnia, appetite and digestive disturbances, shortness of breath, heart palpitations, neurasthenia, and excessive intake of coffee, food, tobacco or liquor).

4) Memory difficulties reported by the respondent, and interpreted by the interviewer.

5) Interpersonal functioning within the social settings of family, work and peer groups.

6) Intrapsychic functioning (anxiety, inadequacy, depression, rigidity, immaturity, withdrawal and suspiciousness).

7) Childhood disturbances comprising 28 selected signs reported retrospectively.

All information pertaining to each respondent was reviewed and rated by two psychiatrists. Besides the questionnaire, this included:

1) the respondent's free-association elaborations and asides, spontaneous or elicited by the interviewer's probes, sparse or voluminous, as the case might be. "Such added comments often proved significant in the clinical judgments of the psychiatrists."

2) A systematic descriptive outline of observations specially prepared for the psychiatrists by the interviewer, covering various aspects of the respondent's behavior including tension or ease, affect, level of intelligence, appearance, speech or memory difficulties and physical disabilities.

3) Data from the Treatment Census files relating to psychiatric care, if any, during the time span covered by the census.

4) Information from the records of the New York City Social Service Exchange providing a history of personal or family problems brought or reported to one or more of the city's social agencies including those attached to the civil courts.

#### QUESTION

17. What are sources of bias affecting the results of the study when comments by the respondents and interviewers are added to the answers of the set questionnaire?

Each psychiatrist independently prepared mental health ratings from the summary provided for each respondent by the interviewers. These were graded according to the degree of symptom formation on a 7 point scale in the following way:

<u>Grade</u>	<u>Amount of Symptom Formation</u>	<u>Grade Definition</u>
0	Not significant	Well
1	Mild, but functioning adequately	Mild
2	Moderate, but apparently adequate adjustment	Moderate
3	Moderate, with some interference in adjustment	Marked
4	Serious, and functioning with some difficulty	Severe
5	Serious, and functioning with great difficulty	Incapacitated
6	Seriously incapacitated and unable to function	Incapacitated

Grades 3 to 6 were classified as impaired in functioning.

Based on final ratings, the Midtown investigators reported for the Home Survey Sample the following distribution of mental health classifications.

<u>Grade</u>	<u>Number</u>	<u>%</u>
Well	307	18.5
Mild	602	36.3
Moderate	362	21.8
Marked	219	13.2
Severe	125	7.5
Incapacitated	45	2.7
	389	23.4
Total	1660	100.0

### QUESTIONS

18. On the basis of the Midtown findings, how would you limit your statements about the prevalence of mental disorders?
19. What are the possible reasons for the high estimate of prevalence for serious mental disorder found in the Midtown study?
20. Suppose the Midtown estimates of the prevalence of mental disorder were accurate. What would be their implications for the provision of psychiatric care in the United States?

### II. Diagnostic Consistency

The practical implications of the high prevalence rates for mental illness found in the two intensive surveys in Bristol and Midtown are serious enough to warrant a thorough search into possible sources of error in the findings. For the mental disorders there exist no laboratory tests to confirm the diagnosis. Consequently the prevalence rates reflect primarily the criteria used by various diagnosticians. It might therefore be said that the utility of diagnosis is directly related to the level of agreement on diagnosis among diagnostically trained persons, in this case, psychiatrists.

In the Bristol study four psychiatrists prepared an individual evaluation sheet for each subject. They then "compared their sheets and agreed on a final joint evaluation which represented the group's best judgment on all these points."

### QUESTION

21. What do you think comparison of the diagnosis of the four psychiatrists used in the Bristol study would have shown? Would a consensus diagnosis be more accurate than the independent diagnoses?

Two psychiatrists were used in evaluating the mental health status of each Midtown subject. When the independent pairs of ratings by the psychiatrists were compared, it was found that they were "in the greatest agreement at the extremes of the mental health continuum." The greatest disagreement was at the "subclinical level of symptomatology. As the severity of symptoms increased, so did the inter-judge agreements in classification." Overall, the pairs of psychiatrists agreed with each other on 47.2% of the cases. If one-grade differences are set aside, agreement rises to 86.7%. Differences between paired ratings were resolved by a prearranged procedure.

QUESTION

22. Do you consider two-grade differences between the Midtown psychiatrists an acceptable basis for resolving disagreements in classification?

The Midtown investigators stated that inter-psychiatrist agreement in classification rose with the severity of the symptoms. To evaluate the consistency of diagnosis for psychiatric illnesses severe enough to require hospitalization, Elkind and Doering in 1925-1926 found that in approximately 42% of the cases, the diagnosis made on admission to a receiving psychiatric hospital in Boston, Mass. was changed upon transfer to a state hospital. The following table shows these changes for various diagnoses:

First Diagnosis at Boston Psychopathic Hospital	No. of Cases at First Diagnosis	Changes from 1st Diagnosis Made at 2d Diagnosis at Boston State Hospital	
		No.	%
Schizophrenia	323	93	28.4
Manic depressive	238	85	35.7
Alcoholic	79	21	26.6
Paranoid condition	68	45	66.2
Involuntional melancholia	31	22	71.0
Undiagnosed	138	118	85.5
Cerebral arteriosclerosis	40	14	35.0
General paralysis	92	10	10.9
Psychosis with other brain and nervous disease	33	24	72.7
Psychosis with other somatic disease	28	16	57.1
Mental deficiency	33	9	27.3
Senile	26	12	46.2
Cerebral syphilis	9	6	66.7
Epileptic psychosis	6	0	0
Not insane	6	4	66.7
Psychopathic personality	13	10	76.9
Psychoneurosis	7	4	57.1
Traumatic psychosis	5	2	40.0
Psychosis due to drugs, etc.	0	2	100.0
Brain tumor	2	0	0
<b>Total</b>	<b>1177</b>	<b>497</b>	<b>42.2</b>

Ash in 1948 compared the diagnoses of psychiatrists who jointly examined 52 white males with psychiatric disorders severe enough to be admitted to a psychiatric clinic. Thirty-five of the patients were examined by 3 psychiatrists, and the remaining 17 cases by two. Comparisons were made by major diagnostic category which included mental deficiency, psychosis, psychopathic personality, neurosis, and personality disorder. Each of the 5 major diagnoses was subdivided into specific diagnostic categories, these affording altogether some 60 secondary diagnoses. The table below indicates the agreements by major or specific (secondary) categories among the psychiatrists:

By type of Diagnostic Category	Agreement in Diagnosis Among 3 Psychiatrists					
	All 3 Agree		2 of 3 Agree		None Agree	
	No.	%	No.	%	No.	%
Specific	7	20.0	17	48.6	11	31.4
Major	16	45.7	13	51.4	1	2.9

Babigian, Gardner, Miles and Romano studied the consistency of diagnosis for 1,215 patients receiving more than one psychiatric service during 1961 and 1962 in Monroe County, New York. The table below shows changes in percentage agreement with successive contacts for psychiatric services.

Number of Contacts	All Diagnostic Groups		Schizophrenia		Affective Psychosis		Chronic Brain Syndrome		Others*	
	No. of Pts.	Percent Unan. Agreem't	No. of Pts.	Percent Unan. Agreem't	No. of Pts.	Percent Unan. Agreem't	No. of Pts.	Percent Unan. Agreem't	No. of Pts.	Percent Unan. Agreem't
2 or more	1215	71.8	261	70.0	120	45.8	299	92.0	535	66.9
2	606	83.8	82	68.3	34	44.1	209	97.1	281	82.9
3	304	72.4	90	72.2	43	48.8	65	86.2	106	72.6
4	155	49.0	41	63.4	28	42.8	15	73.3	71	38.0
5 or more	150	45.0	43	70.0	15	46.7	10	50.0	77	26.0

\*This category includes: neurosis, personality disorder, acute brain syndrome, adjustment reaction, and psychophysiological disorder.

QUESTION

23. What do these findings tell you about the reliability of psychiatric diagnosis?

The variation in psychiatric diagnosis as made by different psychiatrists and psychiatric institutions has been compared to the variation between clinical diagnosis in medicine and autopsy findings.

QUESTION

24. Is this comparison justified? Why or why not? If not, what comparison would you make?

The failure of psychiatrists to agree on diagnosis among themselves, as shown in the Midtown and other studies, is compounded when professionally trained non-psychiatrists are asked to identify cases. Christopher Tietze, who participated in the Baltimore studies both in 1933 and 1936, commented on this problem: "We made two surveys of the Eastern Health District.... This procedure.... was to rely on the various agencies operating within the district.... The agencies were basically the same in the two surveys. It was rather characteristic what types of cases would be contributed from each type of agency. For instance, the hospitals and the clinics were the major sources for the psychotics, whereas social agencies and clinics were the major sources for the cases which were diagnosed as psychoneurosis, personality disorder in adults, psychopathic personality and so forth. We tried to compare 1933 and 1936 to get a line on trends, and we found the major types of personality disorder, so-called, which we had culled and abstracted from the case histories of 1933 had about vanished in the histories of the same agencies, done practically by the same social workers, in 1936."

QUESTION

25. Why do you think the major types of personality disorder found in the 1933 survey had vanished by 1936?

In 1952 a group of leading psychiatrists and social scientists meeting to talk about epidemiologic studies of mental disorders, discussed the definition of a case. These are some of the definitions:

1. "The individual who is minimally not achieving his goals (the minimum being determined by his social and cultural setting) must be considered a case."
2. "What is a case, or rather, the distinguishing characteristics of a case as opposed to a non-case, is to be found in the relationship of the individual to his social environment and to the expectation of the people around him."
3. "Our 'case' is a child about whom the school teacher says, 'This child's behavior is not like most children's. This child is making trouble or having trouble.'"
4. "A relationship of a possibly pathogenic situation and appropriate or inappropriate behavior to that situation."
5. "The question now becomes 'who is a case?' - an individual, the family or school, the situation as a whole?"
6. "A case is a person, because every person is involved in a continuous process of adaptation to a stressful environment."

The last definition was stated by Dr. Thomas A. C. Rennie, director of the Midtown study, which subsequently classified less than 1/5 of the population in the "well" category for mental health.

#### QUESTIONS

26. How might an investigator's definition of a case influence his findings on the prevalence of mental disorders?
27. How do you define a case?