Correlates of Using Mental Health Services: Implications of Using Alternative Definitions

ABSTRACT

Background. Studies using varying definitions of mental health visits result in widely divergent estimates. This analysis examines the stability of a predictive model using three varying definitions based on provider type, diagnosis, psychotherapy, and psychotropic medication use.

Methods. Interview and questionnaire data and claims records from the RAND Health Insurance Experiment are used to test these models among 3138 enrollees.

Results. Estimates of visits, and factors associated with them, are highly sensitive to definitions. Depression was the only symptom/life situation variable, and education the only sociodemographic measure, predictive across all three models. Risk indicators such as suicide thoughts and drinking problems were only significant for the traditional (mental health specialty) model. While patients within the traditional model definition were significantly younger than other enrollees, those within the model using the most expansive definition were significantly older. Varying the definition also led to different results in respect to experimental manipulations, geographic sites, and some specific types of comorbidity.

Conclusions. A reasonable definition, consistent with medical standards, requires, at least, a mental health diagnostic judgment and some form of psychotherapeutic or drug treatment. Studies of the content of mental health care are needed. (*Am J Public Health.* 1992;82:74–78)

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Introduction

Many studies report a high prevalence of psychiatric disorder, particularly depression and anxiety, among patients treated in the general medical care sector.[1,2] One goal is to understand help-seeking patterns among persons with psychiatric need, to understand how physicians recognize psychiatric morbidity in their patients, and to determine how to better educate clinicians to appropriately identify and treat psychiatric disorder.[3,4] A large proportion of patients with depression in general medical care are undetected, probably more than half.[5] Depressive disorders, and even symptoms of depression short of the disorder threshold defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-III), are associated with considerable disability, comparable to or surpassing the disability associated with many serious medical conditions.[6]

In practice, data on the prevalence of psychiatric disorder in the general medical sector come from either small clinical studies of selected practice settings or large national data sets that are broadly representative but lack detail. The large data sets are a common source of estimates of psychiatric morbidity in medical contexts and of analyses of correlates of mental health use.

In major surveys such as the Epidemiological Catchment Area (ECA) study,[7] respondents having various psychiatric symptoms are asked whether they sought care for these symptoms and from whom. Information typically is not available on care actually provided or its intensity. For example, in the ECA study respondents were asked whether they talked about any problems they had with emotions or nerves that might have been connected to or in addition to the reason for their general medical care visit. This general response was then used as a basis for analyzing mental health use.

Analyses from the ECA study indicate that most people with a DSM-III diagnosis as assessed by the Diagnostic Interview Schedule have not sought care for their mental health problem in the prior 6 months, and among those who have, almost half received such care exclusively from the general medical care sector.[8,9] Persons with a mental health visit in the prior 6 months, relative to all respondents, were more likely to be young, White, female, and unmarried and to have had some college education. Such patients were also more, likely to use clinics, to have a regular source of medical care, and to be receptive to professionals.[10] An alternative source of data comes from log diaries completed by doctors, as in the National Ambulatory Medical Care Survey. In this survey the doctor is asked to record the patient's complaints, symptoms, or other reasons for the visit in the patient's own words, principal and other significant diagnoses, new or continued medications ordered or provided, nonmedication therapies such as psychotherapy and "other counseling," and the duration of the visit. Such data on instances of treatment are more detailed than those obtained in the ECA study but do not permit aggregation of visits by person.

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Jencks,[11] using data from the 1980 National Ambulatory Medical Care Survey weighted to reflect the US experience, found that "3.3% of visits [in primary] care were assigned a mental reason for visit, 5.6% received a mental diagnosis, 6.8% received a psychotropic drug, and 3.2% received psychotherapy/therapeutic listening" (p. 1904). Aggregating all of these indicators, excluding duplication, results in an estimate of 11.6% of visits during the year in which there is some evidence of mental health content. The concordance of these indicators, however, is much less common. Only one half of 1% were affirmative on all four criteria and 1.79% included a mental health reason, a mental diagnosis, and either the notation of drugs or psychotherapy. Thus using the inclusive rule of meeting any criterion yields a mental health visit rate 6.5 times greater than a definition based on the presence of a mental health reason, a diagnosis, and mental health treatment.

The conservative criterion is too limited since it is well established that patients with psychosocial distress may disguise the reason for their visit, presenting instead various physical complaints to justify the consultation.[12] Including visits that lead to both a diagnosis and some type of treatment essentially doubles the proportion of mental health visits from 1.79% to 3.49%, accounting for 29% of the mental health visits under the most lenient definition. Estimates of mental health visits are extremely sensitive to the classification assumptions used.

Conceptually, a mental health visit might be said to occur when a patient consults a clinician for emotional or psychophysiological symptoms. The clinician assesses the problem and provides care in direct response to the patient's complaints. Some patients, however, are confused about the sources of their distress, or may deny emotional symptoms. Thus, mental health visits also may include instances where a physician recognizes a psychiatric/emotional problem and provides treatment in response to this assessment, irrespective of the patient's definition, presentation, or understanding of the problem. It would ordinarily be expected that the doctor would make some diagnostic judgment before treatment, but the data indicate that some doctors treat without recording a diagnosis. Several credible alternative definitions are possible. The purpose of this analysis is to examine the extent to which there is stability in predictive models of use of mental health visits when definitions vary.

TABLE 1—Most Common Patterns of Mental Health Care for Total Sample 18 Years and Older in the RAND Health Insurance Experiment

n	Mental Health Specialty Provider	Mental Health Diagnosis	Psychotherapy	Psychotropic Drugs
288	No	No	No	Yes
267	Yes	Yes	Yes	No
219	No	Yes	No	Yes
216	No	Yes	No	No
172	Yes	Yes	Yes	Yes
45	Yes	Yes	No	No
36	Yes	No	No	No
25	No	Yes	Yes	No
21	Yes	Yes	No	Yes

Note. The total number of adults was 1324 (including patterns not shown).

Methods

Procedure

Our data source is the RAND Health Insurance Experiment (HIE), a large experimental study with random assignment carried out between 1974 and 1982. The HIE studied the impact of varying schedules of coinsurance on medical care use and other outcome variables.[13,14] Subjects were followed for 3 to 5 years, depending on experimental assignment, and six geographic sites were included in the study. Independent measures were collected at baseline from interviews and self-administered questionnaires and were linked with subsequent claims forms recording types of practitioners seen, the primary problem or diagnosis as well as other problems/diagnoses for which physicians supplied treatment, procedures used, and drugs prescribed. Measures of morbidity, based on International Classification of Diseases codes, were derived from the claims information. The classification of psychoactive drugs is based on work by the RAND researchers,[15] who classified antipsychotics, antidepressants, and minor tranquilizers, using the National Drug Code Directory, excluding prescriptions when the record showed it was in response to a physical problem. Psychiatric procedures were classified following the California Relative Value Codes. Since the vast majority of procedures constituted psychotherapy, we refer to them as psychotherapy here. Comorbidity measures from the claims forms, and variables characterizing the experimental groups and geographic sites used in the study, are included as controls. We test a model including risk indicators (suicide thoughts, legal problems, deviant sexual behavior, and drinking problems), measures of health status and life situation (depression, a general health index, and life events), comorbidity measures, and sociodemographic variables. The theoretical relevance of the model and the specific measures used are described elsewhere.[16] Our purpose here is to examine the stability of prediction under varying definitions, and, thus, we do not dwell on specific substantive findings. Since some respondents participated in the experiment for 3 years, and others 5 years, a variable (TERM) is included to correct for different periods of exposure.

The RAND researchers did extensive developmental work to ensure the reliability and validity of key questionnaire items, particularly those involving health perceptions.[17] Summaries of major results and significant publications from the HIE are available.[18,19]

Descriptive data are based on 4403 persons aged 18 to 61 at enrollment. In the multivariate analyses, data from Dayton, Ohio, are excluded because this site was used to pretest the instrument and many of the items in the survey are not comparable between Dayton and other sites. This reduced the sample to 3739, of which 3138 had complete information on all variables. The multivariate analysis is based on these 3138 respondents.

Descriptive Data and Study Definitions

Tables 1 and 2 show the most common patterns of mental health care for adults and children during the experiment. These data allow differentiating care provided by mental health professionals such as psychiatrists, psychologists, social workers, psychiatric nurses, or other mental health practitioners as compared with general medical personnel. Using any of four criteria for a mental health visit (seeing a mental health provider, receiving

TABLE 2—Most Common Patterns of Mental Health Care for Total Sample 5–17 Years of Age in the RAND Health Insurance Experiment

n	Mental Health Specialty Provider	Mental Health Diagnosis	Psychotherapy	Psychotropic Drugs
82	Yes	Yes	Yes	No
57	No	Yes	No	No
53	No	No	No	Yes
24	Yes	No	No	No
18	No	Yes	No	Yes
16	Yes	Yes	Yes	Yes
14	No	Yes	Yes	No
13	Yes	Yes	No	No

Note. The total number of children was 287 (including patterns not shown).

a mental health diagnosis, receiving psychotherapy, and receiving a psychotropic drug for conditions other than those justified by physical symptoms [e.g., back pain]), 1324 adults had a mental health visit over the period of the experiment (30.1% of the eligible sample). Only 42% of these adults had visits in the specialty mental health sector over the life of the experiment. Nine patterns of care account for 97% of all instances of care. Most common were visits to a non–mental health specialist who prescribed drugs either with or without a mental health diagnosis and visits to a mental health specialist who made a mental health diagnosis and provided psychotherapy but no drugs.

One hundred thirty-eight children, aged 5 to 17, received care in the specialty mental health sector, 48% of the 287 children who used mental health services. Eight patterns accounted for 97% of all mental health care. Most common patterns were visits to mental health specialists who made a diagnosis and provided psychotherapy, visits to generalists who made mental health diagnoses but provided no specific care, and visits to generalists who did not make a diagnosis but prescribed drugs. All but one of the children without a diagnosis but treated with drugs were seen exclusively by general physicians.

The first two tables illustrate that there are numerous ways of classifying and aggregating mental health visits, and the conventions in the literature vary depending on the opportunities allowable with existing data sources. Most would concede that the numbers of visits will vary widely depending on the definition used, but it is generally assumed that analytic work examining factors associated with such visits will not be affected substantially by definitional conventions or variabilities. Yet we know that the factors affecting help seeking in general are different from those that predict particular sources of care.[20,21] In the analysis that follows, we examine how varying definitions of a mental health visit affect conclusions about the correlates of care.

Using four criteria (provider type, diagnosis, psychotherapy, and psychotropic medications), three alternative definitions were derived from the claims files. The first definition includes all visits to mental health specialty providers that involve a mental health diagnosis and treatment with either drugs or psychotherapy, the traditional definition of a mental health visit. Four hundred sixty enrollees met these criteria over the course of the experiment (10% of the adult sample of 4403). A second definition includes enrollees who received a mental health diagnosis and who received either drugs or psychotherapy. This definition conceptually fits the characterization of the de facto mental health system. Seven hundred sixteen enrollees (16.3% of the total sample) met these criteria. The third definition—the most inclusive—includes the 1027 respondents who received either psychotherapy or a psychotropic drug regardless of the provider or an explicit mental health diagnosis (27.5% of the total sample). Generalists often treat psychologically distressed patients without making a diagnosis, and these criteria constitute a more robust definition of the de facto system.

Results

Table 3 presents three logistic regressions that compare individuals who made mental health visits as defined by our varying criteria (traditional, de facto, and robust de facto) with those who did not have a visit based on these criteria. The results vary greatly depending on the way a mental health visit is defined. In the comparison involving those who met the traditional criteria (Model 1), mental health visits are associated with depression, suicide thoughts, and drinking problems. Persons making such visits also have more education, are younger, and are less likely to be Black. None of the other sociodemographic variables are statistically significant. Mental health visits as defined in Model 1 occur significantly more frequently in some plans and geographic sites than others. Patients with comorbidity involving infections, nervous system disorders, digestive and respiratory problems, and accidents are significantly more likely to have such visits.

Model 2 presents results for those who had a mental health diagnosis and received a psychotropic drug or psychotherapy. Only depression is significant among the risk and health status/life situation variables. Most of the insurance plans and two of the sites are also statistically significant. Education is the only significant sociodemographic variable, and several comorbidity measures are significant, as well as the control for length of participation in the experiment (TERM).

Model 3, based on the most inclusive definition of mental health visits, includes all respondents in either sector who received either psychotherapy or a psychotropic drug. In this model a mental health diagnosis is not needed to meet criteria for a mental health visit. Depression is associated with a greater probability of having a visit, whereas the measure of favorable perceptions of general health status is associated with a lower probability. Older enrollees and those with more education are significantly more likely to have such visits. Persons making mental health visits by this definition are significantly more likely to have most comorbid conditions than those without such a visit.

Discussion

Definitions of mental health visits vary in the literature. Our analysis shows clearly that estimates of the number of mental health visits, and the factors associated with them, are highly sensitive to these definitions. Depression was the only symptom/life situation variable and education the only sociodemographic measure predictive in all three models. Several measures of comorbidity were consistent predictors, reinforcing the general awareness that comorbidity is common in mental health care. Several of the experimental variables were also significant across the three models.

More pertinent were the many important variables that had varying effects depending on definition. Risk indicators such as suicide thoughts and drinking problems were related only to the traditional specialty model, and this was the only model that had significantly fewer Black patients. Model 1 had significantly more younger patients, while Model 3 had significantly fewer younger patients. Enrollees with a lower perception of their general health status were significantly more common in Model 3, but not in the other models. The models also gave significantly different results in respect to some of the experimental manipulations, geographic sites, and some specific types of comorbidity.

The RAND HIE did not include all of the important measures found in other use studies, but there is substantial overlap. The discrepancy in results among models, and with other findings in the literature, argues for great care in defining precisely what we mean by mental health use. One important conclusion that emerges from this analysis is the critical importance of an appropriate definition of mental health use consistent with planning needs.

In a related paper, Mechanic[22] suggested that very broad definitions of mental health visits inadvertently encourage a perception that seriously overestimates the responsiveness of the medical care system to persons with mental health needs. These definitions, and the data that support them, take on a life of their own. The traditional definition, as defined in this paper, is probably too narrow in that it neglects the valuable services provided by generalists, but the robust de facto model is probably too lenient for a realistic assessment of service provision. Model 2 is, at least, a beginning consistent with medical standards. It is reasonable to expect that a physician will make a diagnostic judgment before initiating mental health treatment, and such an assessment is required under Model 2. Continued use of such data sets should be supplemented by qualitative studies that examine in detail the content and appropriateness of mental health care. □

TABLE 3—Logistic Regressions of Mental Health Visits on Risk Factors, Comorbidity, and Demographic Variables

Variable	Model 1 (specialist with diagnosis and drug or procedure) Coefficient	*P*	Model 2 (diagnosis with drug or procedure) Coefficient	*P*	Model 3 (drug or procedure) Coefficient	*P*
Health status/life situation						
Depression	.026	.000	.029	.000	.024	.000
General Health Index	.005	.267	−.001	.722	−.011	.002
Life events	−.085	.274	−.070	.300	.036	.533
Risk indicator						
Suicide thoughts	.342	.043	.092	.548	−.083	.566
Legal problems	.107	.335	.099	.332	−.007	.939
Deviant sexual behavior	.043	.538	.022	.739	.043	.467
Drinking problems	.336	.008	.218	.068	.051	.656
Sociodemographics						
Work	−.068	.638	−.074	.554	−.130	.251
Married	.176	.275	.180	.209	.077	.544
Black	−.833	.009	−.408	.067	−.310	.093
Male	.060	.710	−.152	.273	−.192	.116
Age	−.014	.040	.000	.954	.011	.035
Education	.010	.000	.050	.018	.045	.017
Income	−.106	.426	−.101	.384	−.000	.997
Comorbidity/term						
TERM	.119	.055	.109	.042	.053	.268
INFECT	.353	.008	.253	.030	.227	.032
MUSCLE	.224	.102	.402	.001	.550	.000
NERVOUS	.317	.035	.270	.040	.332	.004
DIGEST	.298	.043	.430	.001	.447	.000
SKIN	.243	.064	.312	.007	.286	.006
GENIT	.495	.001	.471	.000	.507	.000
RESPIT	.320	.018	.392	.001	.436	.000
ACCIDENT	.212	.118	.201	.086	.251	.015
ILLSYMP	.241	.083	.534	.000	.427	.000
CIRCUL	−.033	.827	.182	.155	.372	.001
NEOPLASM	−.006	.974	−.175	.240	.013	.923
Experimental manipulation or site						
Plan A	−.390	.101	−.568	.008	−.753	.000
Plan BD	−.825	.025	−.916	.004	−.979	.000
Plan EG	−.609	.230	−.876	.045	−.934	.013
Plan HJ	−1.03	.004	−.826	.004	−.797	.001
Plan KM	−1.09	.001	−1.097	.000	−.956	.000
Plan N	−.351	.169	−.491	.032	−.712	.001
Plan O	−.115	.566	−.249	.180	−.360	.037
Seattle, Wash	.390	.106	−.508	.016	−.429	.024
Frankburg, Mass	.025	.919	.149	.486	.072	.712
Charleston, SC	−.824	.016	−.641	.016	−.387	.090
Georgetown, SC	−.899	.005	−.476	.051	.025	.905
n	350		518		741	

Note. The total sample size was 3138.

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