Is Screening for Mental Health Problems Worthwhile in Family Practice?

An Affirmative View

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Screening questionnaires and antidepressants are cheap, and depressive illnesses can be long-lasting and cause great suffering; the case for a more active approach seems unanswerable.[1]

Thus concludes a recent editorial in *The Lancet* on the subject of screening for mental disorders (here, depression) in medical settings. In contrast, Frame, in a critical review of adult health maintenance, stated that "screening for depression is not indicated because there is no evidence that early diagnosis of unrecognized symptoms results in net benefit to the patient."[2] In the same review, screening for alcoholism was rejected because "there is no evidence that screening asymptomatic people for alcoholism leads to a decrease in morbidity or mortality from this disease." Is screening for these mental health problems worthwhile in family practice?

Many authors have proposed criteria for screening asymptomatic persons for disease. Frame[2] requires that six separate criteria be met before any screening test is recommended. These criteria may be summarized as follows: The condition must have a significant effect on the quality or quantity of life and must have an asymptomatic phase during which treatment makes a difference. It must be a treatable condition and be common enough to justify the cost of screening. In addition, there must be an acceptable screening test available for the condition at a reasonable cost.

Less stringent criteria are proposed by Rucker et al.[3] They require that the screening test discover new, actual disease; that it be found useful by the physician as a clinical tool; that the information from the screening alter physician behavior (test ordering, decision making); and, finally, that patient outcome be changed. Similar criteria for screening in medical settings have been published by Sackett et al[4] and the World Health Organization.[5]

What is being discussed here is actually case finding[6] rather than true screening (although the latter term will continue to be used). That is, rather than testing healthy volunteers in the community who are called in by the physician for the purpose of screening, in case finding patients are tested when presenting for an unrelated complaint. It can be argued that case finding requires less stringent criteria for employment, in that there is not the implicit guarantee of benefit necessary in population- or practice-wide screening programs.[7] This paper will evaluate the evidence for "screening" family practice patients for common mental health problems, such as depression and alcoholism, examining both the conditions themselves and the screening tests available for them.

MENTAL DISORDERS IN PRIMARY CARE

There is ample documentation that alcoholism and depression are serious disorders, which are very costly in terms of deaths, morbidity, and health care utilization.[8] US deaths due to alcohol abuse were estimated to be over 69,000 in 1980.[9] In 1985, there were 28,620 suicides in the United States[10] and it has been shown that approximately one half of all persons committing suicide are suffering from major depressive illness.[11] Direct and indirect costs incurred by persons with alcoholism are over $100 billion annually[9]; for depression, they exceed $16 billion a year.[12]

Mental disorders are commonly seen in primary care. The prevalence of patients with mental disorders in general medical settings has been shown to be between 20 and 30 percent, and more than one half of these patients probably have depression or alcohol problems or both.[13–15] Research has shown that the majority of patients with

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depression are not recognized as being depressed by their physicians.[16,17] There are fewer data documenting recognition of alcoholism,[18,19] but it is thought to be low as well.

Efficacious treatments are certainly available for major depressive disorders, comprising either drugs or psychotherapy or both,[20] although the vast majority of treatment trials have been done in the specialty mental health sector, not primary care. Whether alcoholism can be effectively treated is a controversial issue, but there are indications that rather minimal treatment in ambulatory settings may be as effective as more intense inpatient therapy.[21,22]

Because alcoholism and depression are currently diagnosed only by symptoms and history, it is impossible to make these diagnoses at a truly asymptomatic stage in the course of the illness. Instead, the question should be whether intervention early in the course of these illnesses has been shown to make a difference. Studies in the so-called "cost-offset" literature imply that early treatment of patients with depression and alcoholism is associated with decreased costs (and presumably risks) of medical visits and procedures.[23,24] Some clinical trials of treatment of depression have shown that early treatment leads to early improvement,[25] and positive results of the first prevention trials of depression are starting to appear.[26] Similar hopes have been expressed for early alcoholism treatments,[22] but no published trials have demonstrated success.

AVAILABLE SCREENING TESTS

Specific, short screening questionnaires have been tested and validated for alcoholism and depression. (Other, more general but equally valid instruments, such as the General Health Questionnaire[27] and the Hopkins Symptom Checklist,[28] will not be examined here.) Numerous studies have documented the acceptability and validity of these instruments. A 13-item version of the Beck Depression Inventory (BDI) was developed in 1972 for use in primary care settings,[29] and it has been used in many studies.[3,17] The 20-item National Institute of Mental Health (NIMH) Center for Epidemiologic Studies Depression Scale (CES-D),[30] first published in 1977 as a population screening instrument, subsequently has been used extensively in general medical settings.[16,31] The Zung Self-Rating Depression Scale (SDS),[32] which also has 20 questions, is the best known and most utilized depression scale in primary care.[25,33,34]

The Michigan Alcohol Screening Test (MAST), a 25-item questionnaire first widely published in 1971,[35] has been shown to be a sensitive instrument for detecting alcoholic patients in general medical settings.[36–38] Similar questionnaires include the Veterans Alcohol Screening Test (VAST)[39] and the Self-Administered Alcoholism Screening Test (SAAST).[40,41] The shortest alcohol screening questionnaire (four easily remembered questions) is the CAGE questionnaire developed by Ewing[42] and is used with increasing frequency in general medical settings.[18,43,44] All of these screening questionnaires have been shown to be acceptable to patients, inexpensive, easy to administer, and sensitive for discovering previously unrecognized depression or alcholism.

BENEFITS OF SCREENING TESTS

Outcome of the use of screening instruments in primary care may be measured in different ways. Increased physician recognition of mental disorders with screening test feedback (as measured by chart notation, for example) is the most simple outcome measure, and these tests seem to accomplish that.[33,34] The next level of outcome analysis is evaluating change in what physicians do; that is, do they increase prescriptions, counseling, or referrals if given positive screening test results? Fewer studies have evaluated outcome at this level. Rucker et al[3] found that physicians felt that feedback of the BDI result had been useful for 58 percent of 375 patients, and that it altered their treatment plan in 21 percent.

The ultimate gold standard for screening outcome, of course, is improvement in patient outcome. Do controlled trials indicate that patients live longer or better if a screening test for mental disorder is used? Zung et al[25] found that significantly more screened patients who were treated with antidepressants were improved after four weeks compared with untreated controls. Preliminary results of a current trial of SDS score feedback to physicians show that depressed patients whose scores were known to physicians improved sooner than those whose scores were not known (WWK Zung, MD, personal communication, 1987).Similar studies using alcoholism screening questionnaires have not been done.

Thus, although many of the necessary criteria for adopting a screening test for such mental health problems as depression and alcoholism are satisfied, not all of them are. These disorders are common, important, and seen frequently in primary care, and there is no question that the use of currently available questionnaires will result in more cases being identified. Gaps exist, however, in demonstrating that early intervention in primary care patients with these problems makes a difference, and in rigorously documenting that the use of screening questionnaires can change patient outcome.

These screening tests may have other important (and as yet unproven) uses in the clinical setting that deserve mention. Some physicians may wish to use alcohol or depression questionnaires when they are uncertain of the diagnosis, as in a patient with multiple somatic complaints (depression) or a history of frequent injuries (alcoholism). A positive screening test in such circumstances could help make a diagnosis. Another possible use is as a confirmatory "laboratory test" to show to a patient who is denying his or her illness. A score of 16 on the BDI, for

instance, could be presented to a patient complaining of frequent headaches and backaches to help focus discussion on psychological issues and improve compliance with antidepressive medication.

It may be that these screening tests are best used only on patients at high risk for the disorders in question. Such selective screening is a well-established practice for other diseases,[45] and risk factors as varied as a family history of alcoholism, high utilization of health services, and a recent death in the family might select a patient for such screening. Currently a study of the outcome of psychiatric consultation for such patients is being undertaken (W. Katon, MD, personal communication, 1987).

CONCLUSIONS

The answer to the question, "Is screening for mental health problems worthwhile?" is a resounding "probably." More research is needed about the nature and course of these illnesses in primary care as well as on treatment and outcome.[46] If as many resources had been applied to evaluating screening for mental disorders as have been used to test screening for cancer or heart disease, more answers would be available today. Depression is one of the disorders to be evaluated in the National Study of Medical Care Outcomes, a longitudinal research project examining health care costs and outcomes of a number of chronic illnesses.[47] Studies such as this one will provide the underlying information needed for definitive research to be done answering the questions discussed here.

These screening tests undoubtedly can uncover undiagnosed illnesses, however. While they may not fully satisfy all required criteria for inclusion in routine health maintenance schedules for all adults, they may be usefully employed selectively to assist family physicians in diagnosing and treating many of their patients with mental health problems.

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An Opposing View

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Family medicine has made great strides toward implementing the biopsychosocial model in clinical practice, but screening for specific mental health problems should not be incorporated into this approach. Screening involves the use of specific methods or instruments in an unselected patient population to detect a condition at an asymptomatic phase. Although mental health problems are never truly asymptomatic, they are often not detected or diagnosed by family physicians, so screening instruments have been developed to detect these problems at an early stage. Such screening is quite distinct from adopting the biopsychosocial model in which biological and psychosocial assessments are integrated. This paper will briefly examine the evidence for the benefits of screening for mental health problems in primary care and discuss the potential harm of such screening.

PURPORTED BENEFITS OF SCREENING

Kamerow and his colleagues at the National Institute of Mental Health[1] have documented the high prevalence of substance abuse and mental disorders in medical practice and their resultant morbidity, mortality, and economic costs. Primary care physicians recognize only a fraction of these disorders, and patients are not receiving adequate treatment. It is tempting to conclude that if mental health disorders can be detected before they are clinically evident, they will be more amenable to treatment, and this hidden psychiatric morbidity can be prevented in a fashion analogous to the early detection and treatment of certain cancers. Sackett[2] warns against the use of such common sense ("the earlier, the better") in screening, for it "will fail to distinguish those early detection procedures that will do good from those that do harm." Instead, specific criteria have been developed for determining whether screening for a disorder is justified[3] and should be applied to mental disorders.

1. *Will screening tests detect mental health problems?* Several screening instruments have been developed for the detection of mental distress, depression, and alcoholism in primary care and have high sensitivity and specificity.[4] Physicians, however, are interested in the probability that a patient with a positive screening test has the disorder, that is, the positive predictive value, which depends on the prevalence of that disorder. For example, the Beck Depression Inventory has a sensitivity of 86 percent and a specificity of 82 percent, but the predictive value of a positive test is only 30 percent in primary care,* where the prevalence of depression is approximately 8 percent.[5,6] The risks of false-positive tests will be discussed later.

* *Derived using Bayes theorem: positive predictive value = sensitivity × prevalence (sensitivity × prevalence + [1 − specificity] × [1 − prevalence])*

Studies of mental health screening in primary care have yielded conflicting results about whether screening increases the diagnoses of mental disorders. Three randomized controlled trials have studied the use of the General Health Questionnaire (GHQ) in screening for mental distress in primary care. In the earliest study,[7] screening significantly increased the detection of mental health problems, but the study involved only one physician, the principal investigator of the study, and has limited generalizability. Two larger and more recent trials[8,9] involved numerous physicians and found no effect on the rate of diagnoses of mental health problems, except in the elderly.[10] On the other hand, screening with the Zung Self-Rating Depression Scale has resulted in an increase in physicians' diagnoses of depression.[11–13] Because these studies lacked any gold standard (eg, psychiatric interview), the accuracy of the new diagnoses could not be assessed. If screening does not improve the rate or accuracy of detection of mental health problems by physicians, patients are unlikely to benefit.

2. *Does detection of mental health problems lead to appropriate treatment and/or referral?* Although primary care physicians detect only a fraction of mental health problems in primary care, Kamerow et al[1] have described how inadequately, by psychiatric standards, these detected problems are treated. Antianxiety drugs are overused for depression, and antidepressants are underused or prescribed at inadequate doses. Referral rates are judged to be much too low. Most patients admitted to a general hospital with diagnosed alcoholism and an alcoholism-related illness do not receive counseling for alcoholism or referral for treatment.[14] In a national survey, family physicians reported the following obstacles to providing treatment or referral for mental health problems: patients' resistance to diagnosis, treatment, and referral to mental health specialists; too little training and time to treat these disorders; inadequate reimbursement for mental health services; and lack of coordination and collaboration with the mental health sector.[15] If physicians feel they cannot adequately manage identified mental health problems, it makes little sense to screen for and detect more of them. In the largest and most recent trial of mental health screening, there was no effect on the management of the identified mental health problems.[9]

3. *Does treatment of mental health problems at an early or asymptomatic phase result in better outcomes?* To justify screening for a disorder, there must be an efficacious treatment, which if applied at an early stage, results in a better outcome than waiting until the condition becomes clinically evident. An efficacious treatment is one that "has been shown, when properly administered and complied with, to do more good than harm in rigorously controlled studies."[16] Such treatments exist for depression and a few other psychiatric conditions (eg, schizophrenia, panic disorders, bipolar affective illness), but not for the majority of mental health problems, including family dysfunction, marital problems, personality disorders, and most psychoneuroses. There are no controlled studies that examine whether early treatment of any mental health disorders is more successful than treatment at a later stage. Clinical observation and uncontrolled studies are not adequate to evaluate the effect of early diagnosis and treatment. Less severe and slower progressing disorders remain at an asymptomatic or undetected state for a longer period of time, are more likely to be detected by screening, and have a better prognosis regardless of treatment. Undetected mental health problems are less severe than those that have been identified by a physician.[17] Prospective studies have demonstrated that over one half of all mental health problems resolve without treatment over six or 12 months.[18,19] Without a randomized controlled trial, any detection and treatment of these problems would appear to have at least a 50 percent cure rate due to spontaneous remission. To date, there is no evidence that the early detection and treatment of any mental health problem results in improved outcome.

RISKS OF SCREENING

Screening in medical practice carries a special ethical obligation to demonstrate that the screening results in more benefit than harm to the patient and society. The patient does not come to the physician requesting help for the mental health problem. Those exposed to the risks of screening are not the same individuals who may benefit from screening. The potential harm of screening for mental health problems must be carefully examined, for if such screening produces more harm than good, its widespread application would have enormous adverse consequences.

Harm to screened patients. Consider screening all adult patients for depression with the Beck Depression Inventory or Zung Self-Rating Depression Scale. Approximately 25 to 40 percent of patients will have positive results,[12,13] but two thirds of these patients will have a falsely positive test and not be depressed. Many of these patients will undergo further evaluation by their physician or be referred to a mental health specialist. Some of these patients will be wrongly assigned a diagnosis of depression and receive inappropriate treatment. The psychological risks of falsely positive tests have been described with other disorders and may persist even after the correct diagnosis is made.[20,21]

The detection of mental health disorders may cause more harm than good. The harmful effects of labeling patients has been documented for hypertension[22,23] and described for psychiatric illnesses.[24] One reason that pa-

tients do not inform their physicians of a recently diagnosed mental disorder is that they may fear being labeled as psychiatric patients.[25] If treatment of the detected disorder is refused, unaffordable, or unavailable, screening may convert a "healthy" person into one with an untreated mental health problem. Treatment has its own risks, whether they are side effects of psychotropic medications or dependence on the mental health system to cope with psychosocial problems.

Harm to other patients and society at large. Frame[3] and others[26,27] have carefully reviewed the literature to determine for which conditions screening is justified. None recommends screening for mental health problems, and the Canadian Task Force[26] recommends specifically against screening for mental health problems (Class D recommendation). Several studies have documented very low levels of compliance with these well-established screening guidelines.[28,29] If physicians begin screening for conditions that lack evidence of benefit, it may lead to less screening for other disorders for which the benefits are firmly established and to a disillusionment with screening in general.

The economic costs of mental disorders are enormous,[1] but so are the costs of treatment of these problems. At present, the mental health care system cannot meet the needs of patients with identified mental health problems. Detecting a large number of additional patients in need of services will only exacerbate the discrepancy between needs and services. Without evidence that the detection and treatment of these mental health problems is beneficial, much less cost effective, it is difficult to justify spending the large amount of money that would be required to treat these problems.

Harm to the physician-patient interaction and the biopsychosocial model. Doherty and colleagues[30] have described family medicine as being in transition, moving from the biomedical to the biopsychosocial model, at a point in which psychosocial problems are considered important but have not yet been integrated with biological problems. Screening for mental health problems may retard the application of the biopsychosocial model in clinical practice. Psychosocial problems may be viewed as disorders that must simply be ruled out, rather than part of the patient's psychological and social situation. This approach may lead to more focus upon pathology, treating human conditions as diseases and applying the biomedical approach to them.

CONCLUSIONS

There is much to be done to meet the mental health needs of patients. Family physicians must continue to strive to apply a biopsychosocial approach in patient care and to teach it to residents. Better training in the diagnosis and management of mental health problems is needed. Mental health services should be better integrated into primary care with more collaboration between mental health providers and family physicians. More research on the epidemiology, clinical presentation, and treatment of mental health disorders in primary care is needed. At the present time however, there is no evidence that screening for mental health problems will benefit patients, and the potential harm is great.

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