Depression in the Family Physician's Office:
What the Psychiatrist Needs to Know:
The Michigan Depression Project

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A rapidly growing body of research suggests that depression in primary care may differ from that in psychiatry in its nature, severity, comorbidity, and responsiveness to treatment. The Michigan Depression Project is a long-term series of studies designed to explore the twin assumptions that depressed primary care patients are similar to depressed psychiatric patients and that identical treatment will benefit both groups. Major findings are (1) criterion-based diagnosis of major depressive disorder in primary care includes many patients with mild depression and little to no impairment; (2) the onset of depression among family practice patients—but not psychiatric patients—is usually preceded by a severe life event; (3) in primary care, outcome for patients with undetected depression appears to be comparable to that for those with detected depression; and (4) family physicians appear to employ historical cues in assigning the diagnosis of depression to distressed and impaired patients. The results of the Michigan Depression Project and the recent work of other researchers suggest that the challenges facing primary care physicians in the diagnosis and treatment of depressed patients are daunting. These challenges lead to a set of consultative skills and behaviors on the part of psychiatrists that may be different than generally expected. One-time, stand-alone psychiatric consultations are often needed, because neither the primary care physician nor the patient desires the psychiatric care to be "carved out" from the continuing care of a set of chronic problems. Future intervention studies should compare subgroups of patients who appear most in need of treatment (on the basis of functional impact) with those who are mildly depressed and barely meet diagnostic criteria. These studies will help primary care physicians focus their energies and therapies where they will have the most benefit in treating what is clearly a common and important, but still poorly understood, problem in primary care medical practice.
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Both epidemiologic and clinical research on depression over the past 2 decades have revealed depression in the primary care setting to be an important but elusive diagnosis, as well as a highly treatable disease whose treatment is not always clearly of benefit to the patient. This paper will review some of this research, emphasizing a series of studies from the Michigan Depression Project, for the purpose of helping psychiatrists understand how differently depression appears to primary care physicians than it does to psychiatrists and of describing some of the challenges faced by primary care physicians in the care of depressed patients.

Weissman et al.[1] documented the high prevalence of depression in the community, and Kessler et al.[2] found that 10% to 20% of the general population consults a primary care physician for mental illness in a 1-year period. Several epidemiologic studies in primary care settings have documented a prevalence of depression of roughly 5% to 25% in routine primary care practice.[3-6] In the recent PRIME-MD 1000 study,[7] 26% of adult primary care patients were assigned a criterion-based psychiatric diagnosis, and an additional 13% of patients were assigned a subsyndromal diagnosis. A large majority of these diagnoses, approximately 90%, were mood, anxiety, substance abuse, and somatiform disorders. Hirschfeld et al.[8] documented that 50% to 70% of patients with criterion-based major depressive disorder (MDD) are undiagnosed by primary care physicians, and that even when treatment is initiated, it is often inadequate by psychiatric standards.[8] The combination of high prevalence, low rates of detection, and apparent inadequate treatment led the Agency for

Health Care Policy and Research (AHCPR) to develop and disseminate a clinical practice guideline for the detection and treatment of depression in primary care.[9,10]

The guideline is composed of a series of discrete steps that are designed to enhance the accurate detection and treatment of major depression, but these steps rely almost exclusively on a direct examination for standardized criteria. The guideline also makes the assumption that determining that the patient is depressed on the basis of these criteria will select a group of patients for whom treatment will be helpful. The usefulness of the guideline for primary care clinicians remains in doubt.[11] Several recent studies have reached conclusions that weaken the guideline's assumptions, as well as suggest that patients with mild-to-moderate MDD respond equally well to placebo or active intervention.[12] For example, one study[13] demonstrated a higher rate of relapse in primary care patients receiving guideline-recommended antidepressant therapy than in those receiving no therapy. Clinical trials that provided criterion-based diagnostic feedback to treating physicians have shown increased detection rates but no improvement in patient outcomes.[14–16] Recent clinical trials of collaborative care arrangements between primary care physicians and psychiatrists have shown that treatment adequacy can be improved, but only a small subgroup of MDD patients appears to benefit from such improvement.[17,18]

These findings and our personal clinical experience suggest that identification and treatment of depression in primary care may be more adequate than some studies suggest, may be a more complex process than is generally believed, and may fail to be improved by simply providing further cognitive knowledge to primary care physicians. There are several proposed characteristics of depression in primary care, or of primary care practice itself, that may explain these discrepancies, including the frequency with which depression is associated with somatic distress, the fact that few patients present with depression as a chief complaint, the short length of most office visits, the presence of multiple competing demands for clinician attention during routine visits, the inaccuracy of diagnostic classification systems for mental health problems in primary care, insurance systems that may not reimburse primary care physicians for certain psychiatric diagnoses, and recent rapid changes in consultation and referral support for psychiatric care in managed care systems.[8]

The Michigan Depression Project is a longitudinal study of depressed patients in primary care settings across southeastern Michigan, and it has been designed to attempt to study at least some of these factors. The results to date have led us to propose a new conceptual model for depression. In this article, we describe the Michigan Depression Project and some of its key findings as a way of helping psychiatrists understand the primary care physicians' experience in the care of depressed patients.

BACKGROUND

The Michigan Depression Project started in 1987 and arose from concerns about the apparent poor performance by primary care physicians in detecting and treating depression as well as from studies suggesting that typical detection and treatment protocols derived from psychiatric practice seemed to be unsuccessful when employed in primary care. The Michigan Depression Project was designed to explore the twin assumptions that depressed primary care patients are similar to depressed psychiatric patients and that treatment of depressed patients in psychiatric and primary care is or should be identical. The Michigan Depression Project started with simple pilot studies to explore the medical and psychosocial correlates of self-reported depressive symptoms in office-based patients of community-based family physicians.[19] As part of this study, a network of collaborating community-based physicians and group practices was developed, and a sample of 293 adult patients were screened in waiting rooms with the Center for Epidemiologic Studies-Depression (CES-D) questionnaire between 1985 and 1987.[20] A weighted sample of 57 patients with a positive score (16 or higher) on the CES-D and a control group of 39 patients received a formal diagnostic assessment by structured telephone interview. Comparisons between the two groups showed a strong association between self-reported depressive symptoms and high rates of physical symptoms, chronic health problems, recent life events, and a lack of supportive relationships. Stress, health status, and support accounted for up to 30% of the variance in self-reported depression, highlighting the diagnostic difficulty facing family physicians who are attempting to differentiate those depressed patients requiring specific treatment from those requiring only supportive care.

The next pilot study[21] developed a two-stage assessment methodology for major depression, using the same group of community practices as in the previous study. Two hundred sixty-six patients were screened first with the CES-D and then with a structured diagnostic interview based on traditional DSM-III-R diagnostic criteria; 22.6% scored positive on the CES-D and 8% met DSM-III-R diagnostic criteria for MDD. Independent physician ratings of depression completed at the office visit were discrepant from both the questionnaire scores and the results of a structured diagnostic interview. Physician ratings were as closely associated with patient-rated levels of stress, physical health, and measures of distress as they were with depression. The CES-D also performed poorly in its ability to predict patients who met formal diagnostic criteria for MDD.

METHODS OF THE
MICHIGAN DEPRESSION PROJECT

During the first phase of the formal Michigan Depression Project, patients aged 17 to 80 years were recruited

from the practices of 50 family physicians in southeast Michigan between September 1990 and December 1991. The participating family physicians, all board-certified, included clinicians in full-time practice in rural and suburban communities, members of the Michigan Research Network (an organized practice-based research network administered by the Michigan Academy of Family Physicians), and a small number of full-time faculty members of the University of Michigan Department of Family Practice. Research assistants rotated between participating sites and during 2 to 4 hour periods, approached all patients who appeared to fall within the designated age range.

A total of 1928 patients completed the initial office-based screening, which included the CES-D and a separate questionnaire assessing self-rated levels of depression, perceived stress, general health, and primary reason(s) for the office visit. Patients scoring above the standard cutpoint of 15 on the CES-D were oversampled for diagnostic interview (described below) with the goal of increasing the yield of depressed patients for study. However, to insure the accuracy of our estimates of the performance of the CES-D as a screening instrument, the prevalence of depressive disorders, and the rates of detection of depression by physicians, the resulting data were weighted according to the probability of a patient having been selected for an interview. This two-stage sampling strategy and compensatory data-weighting combined efficiency in identifying cases of depression with accuracy in the resulting clinical data for epidemiologic analyses.

A total of 425 family practice patients received the Structured Interview for the DSM-III-R (SCID),[22] administered by trained mental health professionals. The SCID served as the criterion standard to identify depressed patients and to evaluate the performance of the physicians in detecting and treating depression. The version used in this phase of the Michigan Depression Project assessed current (defined as within the preceding month) and lifetime psychiatric status for major Axis I disorders using DSM-III-R criteria; provided a rating of the severity of MDD and basic demographic and psychiatric treatment history information; and assigned a score on the DSM-III-R Axis IV, the Global Assessment of Functioning (GAF) scale.

These 425 patients also completed a series of three assessments (at the time of SCID interview and at 4.5 and 9 months), which included the Hamilton Rating Scale for Depression (HAM-D)[23] and a comprehensive clinical interview assessing stress, social support, overall health, and health care utilization. The structured version of the HAM-D employed in the study was, at the time, the most frequently used measure of initial depressive symptomatology and improvement in depression treatment outcome studies, and it facilitated comparisons between this sample and those obtained in other studies.

A comparison sample of 123 depressed psychiatric patients was obtained from those presenting at the outpatient Depression Program of the University of Michigan Department of Psychiatry during the same time period as when the primary care patients were recruited. At the time of the study, it was a routine part of the intake procedure for all psychiatric outpatients to complete the CES-D and to be administered the SCID and HAM-D. Patients in this sample also completed the same series of interviews assessing stress, social support, overall health, and health care utilization as the family practice patients.

RESULTS OF SELECTED STUDIES

The Prevalence and Nature of Depression in Primary Care

One of the first studies examined the prevalence and nature of depression in routine primary care practice,[6] and utilized the SCID to determine the full range of criterion-based depressive disorders in a community-based primary care population. Similar to the results in previous studies, 22% of all patients met criteria for at least one depressive disorder, and 13.5% met criteria for major depression. However, we were able to expand upon these basic results and found that over 40% of those meeting criteria for MDD only barely met diagnostic criteria and had little or no impairment on the basis of Global Assessment of Functioning (GAF) scores. Substantial psychiatric comorbidity was also found in the depressed patients, particularly current or lifetime anxiety disorders (44%) and lifetime substance abuse (42%), suggesting that diagnostic confusion could easily result. As an interesting aside, although the depressed sample contained an excess of women, the excess occurred in direct proportion to the overall prevalence of women presenting as patients. Thus, the likelihood of a man being depressed was equal to that of a woman among those patients actually seen by the family physician.

Detection of Depression by Family Physicians

The next study addressed the detection behavior of family physicians and the differences between detected and nondetected patients with MDD.[24] Again the findings were similar to those in prior studies. Family physicians performed relatively poorly in detecting depression, identifying only 35% of patients with MDD and 28% of patients with any depressive disorder, but detection was strongly related to severity with 73.0% of severely depressed—as opposed to only 18.4% of mildly depressed—patients being detected. Undetected depressed patients had higher levels of function, lower self-rated levels of depression and distress, and a lower likelihood of a history of prior treatment of depression. In addition, depression in the few racial and ethnic minority patients included in this study went largely undetected. Of interest is that the DSM-III-R criteria, on which the SCID is based, lacked an impairment criterion for diagnosis of MDD subsequently included in the DSM-IV. Use of the DSM-IV definition of

MDD would have eliminated many of the undetected mild MDD cases included in this study and improved clinician detection rates. These results suggest that primary care physicians are relatively accurate in detecting severe MDD, which presumably is more important than detecting milder cases for which treatment value is less clear. They also appear to respond to functional status as much as diagnostic criteria, a behavior that reflects poorly in detection studies based on diagnostic criteria, but may be an appropriate behavior relative to those patients most in need of treatment. This issue was explored in the next study.

Differences Between Depressed Patients Seen in Primary Care and Psychiatric Settings

In the next study, 153 primary care patients were compared with the 123 patients enrolled in the psychiatric mood disorders clinic on a number of demographic and clinical variables.[25] Depressed psychiatric patients were more likely to meet criteria for MDD (not unexpected since the patients had been referred for that purpose) and were more severely depressed, more likely to be male, more highly educated, and younger. Depressed primary care patients were less likely to have received prior treatment for depression and were more likely to have past and current psychiatric comorbidity. Undetected primary care patients had milder depression and functioned at a higher level than those who were detected, who were in turn more mildly depressed and more functional than psychiatric patients. These results are similar to the findings from other studies in primary care settings,[26–29] and suggest that the depression encountered in routine primary care—even criteria-defined MDD—is not the same disease as that seen in psychiatric practice.

Life Events and the Onset of Depressive Episodes in Primary Care and Psychiatry

To explore the differences between primary care and psychiatric depression further, we examined the role of life events in the onset of major depression among family practice and psychiatry patients.[30] One strength of this study was its incorporation of a sophisticated coding system for the severity of life events that draws on the work of Brown and Harris.[31] The severity of life events was rated on the basis of a wide range of contextual information collected in a semistructured interview. For example, the birth of child is a severe life event for a young woman with no job skills who was planning to leave her alcoholic and abusive husband, but not for a woman who had planned the pregnancy and had the benefit of a supportive husband. When life events data were coded in this way, the onset of depression among family practice patients was often proceeded by a severe life event. This was not the case for depressed psychiatric patients. These results raise yet another problem for primary care physicians who may expect to find stressful life events preceding the onset of

depression and then miss depression in those patients without such antecedent events, which are less likely for patients with several recurrences. Psychiatric patients may be more likely to have had several previous episodes of MDD, such that recurrences are more likely independent of psychosocial stressors, whereas family practice patients may be having a first or second episode that is more closely tied to such stressors.

Short-Term Outcomes for Depressed Family Practice and Psychiatric Patients

The differences between depression in primary care and psychiatry were further explored by comparing outcomes for detected and undetected family practice and psychiatry patients at 4.5 and 9 months.[32] There were no differences in outcome at 4.5 months between undetected and detected family practice patients, and the HAM-D scores of detected family practice patients were actually higher than that of undetected patients, as well as higher than that of psychiatric patients. The results were unchanged after adjusting HAM-D scores for age and the initial severity of depression and excluding patients with mild MDD. By 9 months, most patients in all three groups had improved and no longer met MDD diagnostic criteria. The somewhat counterintuitive finding that detected depressed family practice patients showed the least improvement in their HAM-D scores over time might be interpreted as an anomaly or as evidence that even when family physicians detect depression, they fail to adequately treat it. However, in this study, this was most likely due to the presence of chronic medical problems and poor marital support in detected family practice patients. These two variables most accurately predicted HAM-D scores at 9 months. Other naturalistic studies now show that detection does not improve outcome. Schulberg et al.[33] found that detection did not improve outcome in a small sample of primary care patients with major depression. Ormel et al.[34] found improved outcomes in patients with detected anxiety disorders, but not in detected depressed patients. Simon et al.[35] and Tiemens et al.[36] also failed to demonstrate improved outcomes for patients with detected versus undetected depression in primary care. All four studies found a high rate of improvement among both undetected and detected patients, but a smaller portion of the detected patients were judged fully recovered.

False Positives, False Negatives, and the Diagnosis of Depression in Primary Care

The complex relationships among depressive symptoms, MDD, and detection and treatment by family physicians were further investigated in a comparison of false positive and false negative depressed patients from the Michigan Depression Project (Klinkman MS, Coyne JC, Gallo SM, et al. Manuscript submitted). Primary care patients were assigned to one of four groups on the basis of

clinician identification and SCID diagnosis: (1) true positives (TP), identified as depressed by both physician and SCID; (2) false positives (FP), labeled as depressed by the physician but not meeting SCID criteria for MDD; (3) false negatives (FN), labeled as not depressed by the physician but meeting SCID criteria; and (4) true negatives (TN), not depressed by either assessment method. Differences between the four groups in demographic characteristics, clinical presentation, scores on mental health instruments (HAM-D, CES-D, GAF), and prior mental health history were examined.

Physician detection was strongly associated with the presence of suggestive clinical cues such as a history of psychiatric treatment, and a global clinical picture of distress, impairment, and decreased function. FP patients displayed significantly higher levels of distress and impairment and were more likely to have a history of mental health problems and treatment than were TN patients. Most importantly, the two misidentified groups, FP and FN, were indistinguishable across all clinical characteristics measured (prior psychiatric care, CES-D scores, GAF scores, and patient self-ratings). FP and FN patients' scores occupied the middle ground between TP and TN patients on most clinical characteristics. Physicians appeared to discriminate between the FP and FN groups on the basis of their knowledge of the patient's clinical history. In the absence of observable clinical differences between FPs and FNs, family physicians appeared to employ historical cues in assigning the diagnosis of depression to these distressed and impaired patients. These findings once again raise the issue of whether the depressed patients whose diagnosis are missed by primary care physicians are disadvantaged by their lack of diagnosis and whether primary care physicians may be appropriately missing some depressed patients because the patients are experiencing a natural remission, are relatively functional, or are being treated by someone other than the primary care physician.

Exploring Primary Care Physician Practices in Detecting and Treating Depression

The inferences described above are supported by a recent qualitative study linked to the Michigan Depression Project in which three focus groups of primary care physicians were convened to explore their views of detection, treatment, and collaborative care of depression (Valenstein M, Klinkman MS. Unpublished data, 1997). The key themes that emerged from the focus groups were

- detection is based on functional rather than diagnostic criteria.
- primary care physicians only detect those patients they believe require treatment and use functional status as their guide.
- there is a high level of patient resistance to diagnosis and treatment, such that physicians have to carefully

consider their diagnosis and its implications for the patient before discussing it with the patient.
- initiating and continuing treatment require considerable time and negotiation, leading to caution in diagnosis and the use of watchful waiting, since time is so precious in primary care practice.

IMPLICATIONS OF THE MICHIGAN DEPRESSION PROJECT FINDINGS

For Detection and Treatment of Depression in Primary Care

The central findings of the Michigan Depression Project are the significant differences seen between depressed psychiatric and family practice patients, the higher rates of detection and treatment of severely depressed—as opposed to mildly depressed—patients by primary care physicians, the confounding effects on diagnosis of stress, anxiety, and other psychiatric and medical comorbidity, and the lack of association between detection and improved outcomes. Our results call into question the major assumption underlying previous mental health research in primary care as well as the development of clinical practice guidelines that depression is depression irrespective of the setting and physician. This assumption has led to the extrapolation of diagnostic and treatment standards from the psychiatric setting to the primary care setting without full justification and has inappropriately framed the debate on underdiagnosis and undertreatment as a problem of primary care physician performance. It also suggests that the complex diagnostic and therapeutic processes employed for psychiatric diseases in primary care can be improved through the dissemination of knowledge, such as diagnostic criteria, when primary care physicians apparently make little use of such information in their diagnostic evaluation. Published guidelines for the diagnosis and treatment of depression in primary care are largely based on research conducted by using the psychiatric model of care and assume that (1) diagnostic criteria derived from the psychiatric research setting are valid for an unselected primary care population, (2) treatment recommendations for severely depressed psychiatric patients are appropriate for and will be accepted by mildly depressed patients in primary care, and (3) routine surveillance for depression through questionnaires and a brief history will yield a significant population of patients for whom more intensive diagnostic and therapeutic measures will be cost-effective. Each of these assumptions has been challenged by us and others.[37–41]

The results of the Michigan Depression Project suggest that physicians may be responding appropriately to the relatively mild major depression that is highly prevalent in primary care. Many patients who meet the diagnostic criteria listed in the AHCPR guideline have minimal-to-no impairment and are not clearly in need of treatment. Most treatment protocols have been developed by purposely ex-

cluding patients with medical and psychiatric comorbidity, and these are the very patients most common in primary care practice. Both physician and patient have multiple competing priorities for time during routine office visits, with several chronic conditions often requiring attention, such that identification and treatment of mild depressive symptoms may not be the most important priority.

We believe the findings of the Michigan Depression Project have several implications for characterizing the nature of depression in primary care and the clinical practice of primary care physicians, as well as for directing future research in this area.

Our results are most consistent with a model of depressive disorder as a subacute or chronic condition marked by exacerbation and improvement over time and characterized by variable severity and significant comorbidity (reference 41 and Coyne JC, Klinkman MJ, Gallo SM. Manuscript submitted). In this model, depression behaves more like asthma than acute appendicitis, and its waxing and waning nature makes the accuracy of diagnosis and the adequacy of treatment difficult to assess. At higher levels of severity, depressive symptoms may be present all or most of the time, occur without provocation, and cause significant impairment. At intermediate levels of severity, depression may become symptomatic only under certain conditions, result in minimal or moderate impairment, and may be of short duration. At minimal severity, depressive episodes may occur only rarely, cause minimal impairment, and be self-limited.

True positive patients with MDD are those with severe exacerbations requiring immediate attention and treatment; family physicians appear to accurately detect MDD in and appropriately treat these patients. Distressed and possibly depressed patients with less severe symptoms—the false positive and false negative patients—occupy the intermediate level of severity in which detection appears to be far more complex. False positives may be in the waning stages of an exacerbation or responding to treatment, while false negatives may be in the early stages of a depressive episode for which they meet criteria but remain functionally intact. In these circumstances, clinicians appear to respond primarily to psychological distress and functional impairment and may use a prior history of depression and change in symptoms over time as diagnostic clues, rather than screen for the presence of specific diagnostic criteria. Their decisions to detect depression in and treat patients with intermediate and minimally severe depression and the effectiveness of such treatment are also likely to be influenced by the presence of competing demands, patient resistance, and the clinical ecosystem of insurance, consultation, and referral systems.[37] Unmeasured differences in severity, staging, and comorbidity in this intermediate group may account for both unexpected treatment success and failure. These factors might partially explain the inconsistent results of recent clinical trials—improvement despite inadequate treatment,[42] relapse in the presence of adequate treatment,[12] and no difference in outcome among patients receiving adequate, inadequate, or even no treatment.[16,18]

For the Psychiatrist

The results of the Michigan Depression Project, and the recent work of many other researchers, suggest that the challenges facing primary care physicians in the diagnosis and treatment of depressed patients are daunting. These challenges lead to a set of consultative skills and behaviors on the part of psychiatrists that may be different than generally expected. The referring primary care physician frequently needs assistance in sorting out priorities in the diagnoses of complex patients with significant psychiatric comorbidity, rather than standard recommendations of antidepressant regimens. Such consultations are often best done on a onetime, stand-alone basis, because neither the primary care physician nor the patient desires the psychiatric care to be carved out from the continuing care of a set of chronic problems. Common examples are the alcoholic patient who cannot stay sober long enough to undergo a full course of depression treatment and the depressed patient with panic disorder. Onetime medication consultations are also valuable, because primary care physicians have usually tried an array of medications prior to consultation, albeit often in inadequate dosage or for too short a time. Many patients have obvious, treatable, criterion-based mood or anxiety disorders, but personality disorders often complicate compliance and response. Difficult, somatizing patients with undiagnosed psychiatric disorders often benefit from brief diagnostic consultations, but the physician may benefit as much from the sharing of the caregiving burden as from the consultation report. Finally, subsyndromal patients with significant functional impairment constitute a large group of patients for whom primary care physicians often need help (although psychiatrists seem to have as much trouble as primary care physicians knowing what to do for many of these patients).

In conclusion, we believe this important aspect of primary care practice is ready for intervention studies, in which subgroups of patients who appear most in need of treatment (based on functional impact) are compared with those who are more mildly depressed and barely meet diagnostic criteria. This type of intervention study is needed to help primary care physicians focus their energies and therapies where they can provide the most benefit in treating what is clearly a common and important, but still poorly understood, problem in primary care medical practice.

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