

# Is This Patient Clinically Depressed?

## EBEM Commentator Contact

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## RATIONAL CLINICAL EXAMINATION REVIEW SOURCE

This is a rational clinical examination abstract, a feature of the *Annals'* Evidence-Based Emergency Medicine (EBEM) series. Each one features an abstract of a rational clinical examination review from the *Journal of the American Medical Association*, along with commentary by emergency physicians knowledgeable in the subject area.

The source for this rational clinical examination review abstract is: Williams JW, Hitchcock Noel P, Cordes JA, et al. The rational clinical examination: is this patient clinically depressed? *JAMA*. 2002;287:1160-1170.

## OBJECTIVE

To review whether relatively simple depression questionnaires are accurate as case-finding instruments for a diagnosis of clinical depression and to determine whether a structured interview is reliable to make a criterion-based diagnosis of depression.

## DATA SOURCES

The authors searched MEDLINE for published English-language literature from 1970 to July 2000 to locate case-finding instruments and their performance when used in mainly primary care settings. The authors also searched a specialized registry of depression trials and manually reviewed the bibliographies of pertinent articles. The same database was used for location of studies evaluating the reliability of the clinical interview.

## STUDY SELECTION

For case-finding instruments, the authors modified the inclusion criteria to select those that are most useful in the clinical arena and depression specific. Therefore, studies were included if they were conducted in primary care settings with a reasonable sample size, used a case-finding instrument that was easy to read and score, and used some type of standardized interview to make a criterion-based diagnosis.

For reliability studies, the authors required a criterion-based diagnosis obtained by 2 or more clinicians who either interviewed the same patient or reviewed a video or audiotape interview. In those that used a semistructured interview, the authors included only those studies using the Structured Clinical Interview, a validated research instrument.

## DATA EXTRACTION AND ANALYSIS

Two authors independently reviewed and abstracted each article. Each article's data were reviewed, and the authors calculated the average positive likelihood ratios and negative likelihood ratios for each case-finding instrument.

## MAIN RESULTS

The authors reviewed 379 eligible studies of 1,766 articles identified by the search criteria. All inclusion criteria were satisfied in 28 studies, which used 11 different case-finding instruments. The average likelihood ratios were calculated for each case-finding instrument, and summary results are shown in the *Table*. All 11 instruments could be administered in fewer than 5 minutes, and no significant difference in either likelihood ratio was found between instruments.

Seven studies were identified that directly compared diagnostic agreement between 2 examiners using the Structured Clinical Interview, with either mental health professionals or primary care physicians. Regardless of study differences, overall interrater agreement corrected for chance was good ( $\kappa=0.64$  to  $0.93$ ). In 7 studies using a nonstandard interview, the interrater agreement corrected for chance was substantial ( $\kappa=0.55$  to  $0.74$ ), although not as good as in a standardized interview. A single study comparing primary care physicians using a semistructured instrument diagnosis to a mental health professional using the Structured Clinical Interview and found good agreement (simple agreement 88%;  $\kappa=0.88$ ).

## CONCLUSIONS

Many case-finding instruments are accurate and useful to identify a subset of patients who have a higher likelihood of having clinical depression. All instruments were easily adaptable to clinical practice, and there was no significant difference between instruments in regard to likelihood ratios. The authors

**Table.** Results of accuracy of case-finding instruments for major depressive disorder

Instrument	Summary Likelihood Ratio Positive, (95% CI)*	Summary Likelihood Ratio Negative, (95% CI)
Beck Depression Inventory (BDI)	4.2 (1.2–13.6)	0.17 (0.1–0.3)
Center for Epidemiologic Studies Depression (CES-D)	3.3 (2.5–4.4)	0.24 (0.2–0.3)
Depression Scale (DEPS)	4.93	0.31
Duke Anxiety-Depression Scale (DADS)	2.27	0.28
Geriatric Depression Scale (GDS)	3.3 (2.4–4.7)	0.16 (0.1–0.3)
Hopkins Symptom Checklist (HSCL)	3.2 (1.7–6.2)	0.24 (0.1–0.5)
Primary Care Evaluation of Mental Disorders (PRIME-MD)	2.7 (2.0–3.7)	0.14 (0.1–0.3)
PRIME-MD Patient Health Questionnaire (PHQ)	12.2 (8.4–18)	0.28 (0.2–0.5)
Symptom Driven Diagnostic System-Primary Care (SDDS-PC)	3.5 (2.4–5.1)	0.22 (0.1–0.4)
Zung Self-Rating Depression Scale (SDS)	3.3 (1.3–8.1)	0.35 (0.2–0.8)
Single Question (SQ)	2.3 (1.8–2.9)	0.16 (0.0–0.6)

CI, Confidence interval.

\*Summary likelihood ratio refers to a weighted average across all studies. Only PHQ and SQ used single studies, with those results included as summary. All are for major depressive disorder alone, except DEPS and DADS, which are a single study for major depressive disorder or dysthymia. 95% CIs were not included for DEPS and DADS.

found good interrater reliability, using either a structured or semistructured interview, for making a psychiatric diagnosis, even with primary care physicians.

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#### COMMENTARY: CLINICAL IMPLICATION

Depression and psychiatric disorders are common in the emergency department (ED) setting. Approximately 4% of the population is clinically depressed,<sup>1</sup> and depression and psychiatric illness accounts for up to 12% of all ED visits.<sup>2</sup> Patients with multiple visits or nonspecific chief complaints, as well as those with other presenting complaints, may harbor an underlying psychiatric diagnosis.

Emergency physicians are often not attuned to the high prevalence of depression and are not good at recognizing and diagnosing it, especially in older patients, missing nearly two thirds of cases.<sup>3,4</sup> Primary care physicians using a semistructured interview correlated well to psychiatrists in diagnosing patients with psychiatric illness. The use of a semistructured interview in the ED could help to diagnose clinical depression and improve communication between services.

Depression also is common in patients with diabetes, cardiovascular disease, congestive heart failure, and other chronic diseases, occurring in as many as 20% to 25% of these patients.<sup>5,6</sup> It has also been associated with increased morbidity and mortality in these diseases<sup>5</sup> and increases the number of emergency visits.<sup>6</sup> Therefore, identifying a potential subset of patients with depression for further evaluation and treatment may benefit patients and decrease future ED visits. Untreated depression can often lead to a suicide attempt. Before

committing suicide, patients frequently seek medical care; however, often they do not directly express this, but rather present with atypical or nonspecific symptoms. Two thirds of suicidal patients visited a physician in the preceding month, often in the ED.<sup>1</sup>

Although the role of the ED in public health screening is a controversial issue,<sup>7</sup> depression contains an important triad: moderate prevalence, poor recognition, and increased patient mortality both directly and secondarily through contributions to comorbid conditions. Therefore, the ED setting may be appropriate for implementation of a universal screening program for depression, as it has been for measures that are now routinely accepted, such as intimate partner violence screening.<sup>8</sup> The depression case-finding instruments examined in this review demonstrate similar likelihood ratios; however, they differ in length and specific utility of each. Many of those that are longer, with more questions, are not depression specific and can be used to screen for additional psychiatric diseases. Simple and straightforward instruments such as the Single Question or Primary Care Evaluation of Mental Disorders, which have 1 and 2 questions, respectively, may be ideal for emergency providers with limited time and resources to use as a quick depression screening mechanism. Longer self-assessment questionnaires with multiple items may also have a role in the ED. They could be given to patients, after registration and while waiting for evaluation for any type of complaint, and automatically scored with the designated cutoffs as a screen for underlying psychiatric pathology.

This Rational Clinical Examination installment suggests that simple, rapid, standardized, case-finding instruments could be incorporated into common emergency medicine practice, either during triage or initial evaluation. Although these instruments do not make a clinical diagnosis of depression and have not been proven to alter outcomes,<sup>9</sup> they were shown to have likelihood ratios with good clinical utility, both negative and positive. A positive screening result should provoke further

evaluation by the emergency physician or lead to psychiatric referral. For example, an ED that screened 100 patients per week with the Single Question instrument (Have you felt depressed or sad much of the time in the past year?), assuming a prevalence of 8% in the ED population, will have 38 patients screen positive, of whom 7 will have the disease. Of the 62 patients who screen negative, only 1 will be clinically depressed. However, this is only a screening test because 31 patients who screen positive would not be clinically depressed.

### TAKE-HOME MESSAGE

Depression is prevalent in the ED and is often overlooked. Depression screening tools take little time and appear able to identify patients appropriate for further evaluation and testing. This has the potential to change patient outcome, decrease future ED visits, and improve patient care.

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### EBEM TEACHING POINT

Case-finding instruments are used to detect potential disease in a cohort of patients being seen or treated for medical reasons unrelated or indirectly related to the disease being sought. This differs from random population screening and from screening done routinely in office settings on patients without illness or active medical issues. Depression, which may be associated with diseases such as cancer or addiction, can be sought with higher yield in health care settings in which it is statistically likely to be more prevalent than in asymptomatic, outpatient populations.

In general, case-finding instruments also differ from typical screening tests by involving the patient in the instrument, which can be given by an examiner or be self-administered. The instruments themselves do not make diagnoses, but rather identify patients more or less likely to have the disease and can be used to screen large numbers of potentially high-risk patients with low cost and effort. Like all screening tests, case-finding instruments often attempt to maximize sensitivity, with a resultant loss of specificity, and thus have a propensity to generate false-positive results, although "positive" results should generally be considered preliminary with such instruments. Patients who screen positive require further testing to establish the presence or absence of the diagnosis in question.

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