

research



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ORIGINAL RESEARCH Individual participant data meta-analysis

Accuracy of Patient Health Questionnaire-9 (PHQ-9) for screening to detect major depression

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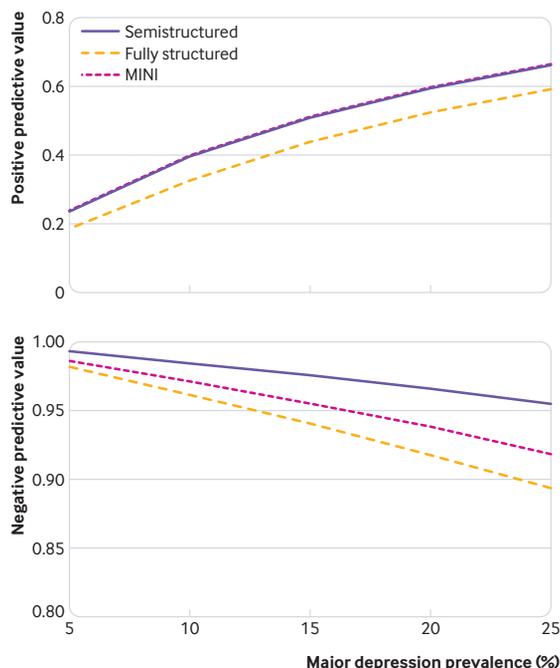
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Study question What is the diagnostic accuracy of the Patient Health Questionnaire-9 (PHQ-9) for screening to detect major depression?

Methods Individual participant data meta-analysis was used to synthesise results from studies that compared PHQ-9 scores with diagnoses of major depression from validated diagnostic interviews. For PHQ-9 cut-off scores 5-15, bivariate random effects meta-analysis was used to estimate pooled sensitivity and specificity among studies that used semistructured diagnostic interviews, fully structured interviews, and the Mini International Neuropsychiatric Interview (MINI), separately. Sensitivity and specificity were examined among subgroups of participants and, separately, using meta-regression, considering all subgroup variables in a single model.

Study answer and limitations Data were obtained for 58/72 eligible studies (total n=17 357, major depression cases n=2312). Combined sensitivity and specificity was maximised at a cut-off score of 10 or greater among studies using a semistructured interview (sensitivity 0.88, 95% confidence interval 0.83 to 0.92; specificity 0.85, 0.82 to 0.88). Across cut-off scores, sensitivity with semistructured interviews was higher than for fully structured interviews (MINI excluded) and for the MINI. Specificity was similar across diagnostic interviews. Limitations include the inability to obtain data for 14 eligible studies, substantial heterogeneity across included studies, and the inability to do subgroup analyses based on specific medical comorbidities or cultural aspects.



Nomograms of positive (top) and negative (bottom) predictive values for cut-off score 10 of the Patient Health Questionnaire-9 (PHQ-9) for major depression prevalence values of 5-25% for each reference standard category (semistructured diagnostic interviews, fully structured diagnostic interviews, and Mini International Neuropsychiatric Interview (MINI))

What this study adds Sensitivity of the PHQ-9 compared with semistructured diagnostic interviews was greater than in previous meta-analyses that combined reference standards. A cut-off score of 10 or greater maximised combined sensitivity and specificity overall and for subgroups.

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