

Special Communication | USPSTF RECOMMENDATION STATEMENT

Screening for Depression in Adults

US Preventive Services Task Force Recommendation Statement

Albert L. Siu, MD, MSPH; and the US Preventive Services Task Force (USPSTF)

DESCRIPTION Update of the 2009 US Preventive Services Task Force (USPSTF) recommendation on screening for depression in adults.

METHODS The USPSTF reviewed the evidence on the benefits and harms of screening for depression in adult populations, including older adults and pregnant and postpartum women; the accuracy of depression screening instruments; and the benefits and harms of depression treatment in these populations.

POPULATION This recommendation applies to adults 18 years and older.

RECOMMENDATION The USPSTF recommends screening for depression in the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up. (B recommendation)

JAMA. 2016;315(4):380-387. doi:10.1001/jama.2015.18392

← Editorial pages 349 and 351

+ Author Audio and Video Interviews and JAMA Report Video at jama.com

← Related article page 388 and JAMA Patient Page page 428

+ CME Quiz at jamanetworkcme.com and CME Questions page 411

+ Related articles at jamapsychiatry.com, jamainternalmedicine.com, and jamaneurology.com

Author Affiliations: Author affiliations are listed at the end of this article.

Authors/Group Information: The USPSTF members are listed at the end of this article.

Corresponding Author: Albert L. Siu, MD, MSPH (albert.siu@mssm.edu).

The US Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific preventive care services for patients without related signs or symptoms.

It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.

The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.

Summary of Recommendation and Evidence

The USPSTF recommends screening for depression in the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up. (B recommendation) (Figure 1)

Rationale

Importance

Depression is among the leading causes of disability in persons 15 years and older. It affects individuals, families, businesses, and so-

ciety and is common in patients seeking care in the primary care setting. Depression is also common in postpartum and pregnant women and affects not only the woman but her child as well.

Detection

The USPSTF found convincing evidence that screening improves the accurate identification of adult patients with depression in primary care settings, including pregnant and postpartum women.

Benefits of Early Detection and Intervention and Treatment

The USPSTF found adequate evidence that programs combining depression screening with adequate support systems in place improve clinical outcomes (ie, reduction or remission of depression symptoms) in adults, including pregnant and postpartum women.

The USPSTF found convincing evidence that treatment of adults and older adults with depression identified through screening in primary care settings with antidepressants, psychotherapy, or both decreases clinical morbidity.

The USPSTF also found adequate evidence that treatment with cognitive behavioral therapy (CBT) improves clinical outcomes in pregnant and postpartum women with depression.

Harms of Early Detection and Intervention and Treatment

The USPSTF found adequate evidence that the magnitude of harms of screening for depression in adults is small to none.

The USPSTF found adequate evidence that the magnitude of harms of treatment with CBT in postpartum and pregnant women is small to none.

Figure 1. US Preventive Services Task Force Grades and Levels of Certainty

What the USPSTF Grades Mean and Suggestions for Practice		
Grade	Definition	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate, or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the Clinical Considerations section of the USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit	
Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by such factors as the number, size, or quality of individual studies. inconsistency of findings across individual studies. limited generalizability of findings to routine primary care practice. lack of coherence in the chain of evidence. As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of the limited number or size of studies. important flaws in study design or methods. inconsistency of findings across individual studies. gaps in the chain of evidence. findings not generalizable to routine primary care practice. lack of information on important health outcomes. More information may allow estimation of effects on health outcomes.
The USPSTF defines certainty as “likelihood that the USPSTF assessment of the net benefit of a preventive service is correct.” The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.	

The USPSTF found that second-generation antidepressants (mostly selective serotonin reuptake inhibitors [SSRIs]) are associated with some harms, such as an increase in suicidal behaviors in adults aged 18 to 29 years and an increased risk of upper gastrointestinal bleeding in adults older than 70 years, with risk increasing with age; however, the magnitude of these risks is, on average, small. The USPSTF found evidence of potential serious fetal harms from pharmacologic treatment of depression in pregnant women, but the likelihood of these serious harms is low. Therefore, the USPSTF concludes that the overall magnitude of harms is small to moderate.

USPSTF Assessment

The USPSTF concludes with at least moderate certainty that there is a moderate net benefit to screening for depression in adults, includ-

ing older adults, who receive care in clinical practices that have adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up after screening (Figure 1). The USPSTF also concludes with at least moderate certainty that there is a moderate net benefit to screening for depression in pregnant and postpartum women who receive care in clinical practices that have CBT or other evidence-based counseling available after screening.

Clinical Considerations

Patient Population Under Consideration

This recommendation applies to adults 18 years and older (Figure 2). It does not apply to children and adolescents, who are addressed in

Figure 2. Screening for Depression in Adults: Clinical Summary

Population	Adults aged ≥ 18 y
Recommendation	Screen for depression, with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up. Grade: B
Risk Assessment	Women, young and middle-aged adults, and nonwhite persons have higher rates of depression, as do persons who are undereducated, previously married, or unemployed. Persons with chronic illnesses, other mental health disorders, or a family history of psychiatric disorders are also at increased risk. Risk factors in older adults include disability and poor health status related to medical illness, complicated grief, chronic sleep disturbance, loneliness, and history of depression. Risk factors during pregnancy and postpartum include poor self-esteem, child-care stress, prenatal anxiety, life stress, decreased social support, single/unpartnered relationship status, history of depression, difficult infant temperament, previous postpartum depression, lower socioeconomic status, and unintended pregnancy.
Screening Tests	Commonly used depression screening instruments include the Patient Health Questionnaire in various forms and the Hospital Anxiety and Depression Scales in adults, the Geriatric Depression Scale in older adults, and the Edinburgh Postnatal Depression Scale in postpartum and pregnant women. Positive screening results should lead to additional assessment that considers severity of depression and comorbid psychological problems, alternate diagnoses, and medical conditions.
Screening Interval	The optimal timing and interval for screening for depression is not known. A pragmatic approach might include screening all adults who have not been screened previously and using clinical judgment in consideration of risk factors, comorbid conditions, and life events to determine if additional screening of high-risk patients is warranted.
Treatment and Interventions	Effective treatment of depression in adults generally includes antidepressants or specific psychotherapy approaches, alone or in combination. Given the potential harms to the fetus and newborn child from certain pharmacologic agents, clinicians are encouraged to consider evidence-based counseling interventions when managing depression in pregnant or breastfeeding women.
Balance of Benefits and Harms	The net benefit of screening for depression in the general adult population is moderate.
Other Relevant USPSTF Recommendations	The USPSTF has made recommendations on screening for depression in children and adolescents and screening for suicide risk in adolescents, adults, and older adults. These recommendations are available on the USPSTF website (http://www.uspreventiveservicestaskforce.org).

For a summary of the evidence systematically reviewed in making this recommendation, the full recommendation statement, and supporting documents, please go to <http://www.uspreventiveservicestaskforce.org>.



a separate USPSTF recommendation statement (available at <http://www.uspreventiveservicestaskforce.org>).

Assessment of Risk

The USPSTF recommends screening in all adults regardless of risk factors. However, a number of factors are associated with an increased risk of depression. Among general adult populations, prevalence rates vary by sex, age, race/ethnicity, education, marital status, geographic location, and employment status. Women, young and middle-aged adults, and nonwhite persons have higher rates of depression than their counterparts, as do persons who are undereducated, previously married, or unemployed. Other groups who are at increased risk of developing depression include persons with chronic illnesses (eg, cancer or cardiovascular disease), other mental health disorders (including substance misuse), or a family history of psychiatric disorders.

Among older adults, risk factors for depression include disability and poor health status related to medical illness, complicated grief, chronic sleep disturbance, loneliness, and a history of depression. However, the presence or absence of risk factors alone cannot distinguish patients with depression from those without depression.

Risk factors for depression during pregnancy and postpartum include poor self-esteem, child-care stress, prenatal anxiety, life stress, decreased social support, single/unpartnered relationship status, history of depression, difficult infant temperament, previous postpartum depression, lower socioeconomic status, and unintended pregnancy.

Screening Tests

Commonly used depression screening instruments include the Patient Health Questionnaire (PHQ) in various forms and the Hospital Anxiety and Depression Scales in adults, the Geriatric Depression Scale in older adults, and the Edinburgh Postnatal Depression Scale (EPDS) in postpartum and pregnant women. All positive screening results should lead to additional assessment that considers severity of depression and comorbid psychological problems (eg, anxiety, panic attacks, or substance abuse), alternate diagnoses, and medical conditions.

Screening Timing and Interval

There is little evidence regarding the optimal timing for screening. The optimum interval for screening for depression is also unknown; more evidence for all populations is needed to identify

ideal screening intervals. A pragmatic approach in the absence of data might include screening all adults who have not been screened previously and using clinical judgment in consideration of risk factors, comorbid conditions, and life events to determine if additional screening of high-risk patients is warranted.

Treatment

Effective treatment of depression in adults generally includes antidepressants or specific psychotherapy approaches (eg, CBT or brief psychosocial counseling), alone or in combination. Given the potential harms to the fetus and newborn child from certain pharmacologic agents, clinicians are encouraged to consider CBT or other evidence-based counseling interventions when managing depression in pregnant or breastfeeding women.

Other Approaches to Prevention

The Community Preventive Services Task Force, which makes evidence-based recommendations on preventive services for community populations, recommends collaborative care for the management of depressive disorders as part of a multicomponent, health care system-level intervention that uses case managers to link primary care providers, patients, and mental health specialists. More information about the Community Preventive Services Task Force and its recommendations on depression interventions is available on its website (<http://www.thecommunityguide.org>).

Useful Resources

The USPSTF has made recommendations on screening for depression in children and adolescents and screening for suicide risk in adolescents, adults, and older adults (available at <http://www.uspreventiveservicestaskforce.org>).

The Substance Abuse and Mental Health Services Administration maintains a national registry of evidence-based programs and practices for substance abuse and mental health interventions (<http://nrepp.samhsa.gov/>) that may be helpful for clinicians looking for models of how to implement depression screening.

Other Considerations

Implementation

The USPSTF recommends that screening be implemented with adequate systems in place. "Adequate systems in place" refers to having systems and clinical staff to ensure that patients are screened and, if they screen positive, are appropriately diagnosed and treated with evidence-based care or referred to a setting that can provide the necessary care. These essential functions can be provided through a wide range of different arrangements of clinician types and settings. In the available evidence, the lowest effective level of support consisted of a designated nurse who advised resident physicians of positive screening results and provided a protocol that facilitated referral to evidence-based behavioral treatment.¹ At the highest level, support included screening; staff and clinician training (1- or 2-day workshops); clinician manuals; monthly training lectures; academic detailing; materials for clinicians, staff, and patients;

an initial visit with a nurse specialist for assessment, education, and discussion of patient preferences and goals; a visit with a trained nurse specialist for follow-up assessment and ongoing support for medication adherence; a visit with a trained therapist for CBT; and a reduced copayment for patients referred for psychotherapy.^{2,3}

Multidisciplinary team-based primary care that includes self-management support and care coordination has been shown to be effective in management of depression. These components of primary care are detailed in recommendations from the Community Preventive Services Task Force.⁴ It recommends collaborative care for the treatment of major depression in adults 18 years and older on the basis of strong evidence of effectiveness in improving short-term treatment outcomes. As defined, collaborative care and disease management of depressive disorders include a systematic, multicomponent, and team-based approach that "strengthens and supports self-care, while assuring that effective medical, preventive, and health maintenance interventions take place" to improve the quality and outcome of patient care.⁴

Costs

The economic burden of depression is substantial for individuals as well as society. Costs to an individual may include emotional suffering, reduced quality of personal relationships, possible adverse effects from treatment, cost of mental health and medical visits and medications, time away from work and lost wages, and cost of transportation. Costs to society may include loss of life, reduced productivity (because of both diminished capacity while at work and absenteeism from work), and increased costs of mental health and medical care.

Research Needs and Gaps

Gaps in the evidence on screening for depression in older adults in primary care include a lack of information from large-scale randomized controlled trials (RCTs) in settings that are applicable to the US population. More research is needed on the accuracy of screening tools in languages other than English and Spanish and to identify the timing and optimal screening interval in all populations. Data are lacking on both the accuracy of screening and the benefits and harms of treatment in pregnant women, as well as for the balance of benefits and harms of treatment with antidepressants in postpartum women. Finally, research is needed to assess barriers to establishing adequate systems of care and how these barriers can be addressed.

Discussion

Burden of Disease

Major depressive disorder (MDD) is a common and significant health care problem. It is the leading cause of disability among adults in high-income countries and is associated with increased mortality due to suicide and impaired ability to manage other health issues. Depression has a major effect on quality of life for the patient and affects family members, especially children. Depression also imposes a significant economic burden through direct and indirect costs. In the United States, an estimated

\$22.8 billion was spent on depression treatment in 2009, and lost productivity cost an additional estimated \$23 billion in 2011.⁵

Scope of Review

The USPSTF commissioned a systematic evidence review to update its 2009 recommendation, which focused on the direct evidence on the benefits and harms of screening for depression in adult populations, including older adults and pregnant and postpartum women. The USPSTF also reviewed the evidence on the accuracy of depression screening instruments and the benefits and harms of depression treatment in these populations.

Accuracy of Screening Tests

General Adult Population and Older Adults

The accuracy of screening tests in the general adult population was established in the 2002 and 2009 USPSTF reviews and found to be convincing.

Pregnant and Postpartum Women

Twenty-three studies (n = 5398), including 8 studies of the English-language version, compared the accuracy of the EPDS with a diagnostic interview.⁶ Sensitivity of the English-language EPDS with a cutoff score of 13 ranged from 0.67 (95% CI, 0.18-0.96) to 1.00 (95% CI, 0.67-1.00), and specificity for detecting MDD was consistently at least 0.90. In the 2 trials conducted in the United States,^{7,8} including a recent study in low-income African American women, sensitivity for detecting MDD ranged from 0.78 to 0.81. This suggests that the average sensitivity of the EPDS with a cutoff score of 13 in the United States is approximately 0.80, and the positive predictive value for detecting MDD would be 47% to 64% in a population with a 10% prevalence of MDD. The Spanish-language version also showed acceptable performance characteristics. No studies of screening in pregnant and postpartum women with the 9-item PHQ or other versions met inclusion criteria.

Effectiveness of Screening and Treatment

General Adult Population and Older Adults

Nine good- or fair-quality trials addressed screening in general adults (5 trials; n = 2924) and older adults (4 trials; n = 890). Seven studies were conducted in the United States, and 2 (in older adults) were conducted in the Netherlands. Most studies were published in the 1990s and early 2000s; only 1 (in older adults) of the 9 trials was published since the previous systematic review. One study in general adults directly compared screening with usual care case-finding,⁹ while the other studies screened all patients for depression, enrolled only those screening positive, and returned results of screening to clinicians in the intervention group only.⁶ Studies included a range of additional treatment components along with providing screening result feedback to clinicians.

Improvements in remission, response rates, or both in the general adult population ranged from 17% to 87%. Other outcomes were sparsely reported. The effect of screening on remission, response rates, or both in the trials of older adults was minimal. However, both of the trials in older adults that showed a paradoxical effect were conducted in the Netherlands, and the trial with the worst outcomes had a number of features that may have affected its reliability, including external referrals for depression treatment, very low

uptake of treatment (19%), and high mortality and morbidity in the intervention group, suggesting that the control and intervention groups may have been different at baseline.

The 2009 USPSTF recommendation concluded that the evidence was sufficient to establish the benefits of treatment of depression in general adult populations, including older adults.¹⁰ A systematic review of intention-to-treat trials comparing 3 groups of adult patients who received antidepressants, psychotherapy, or a control condition reported a 46% remission rate with antidepressants and a 48% remission rate with psychotherapy after 10 to 16 weeks.¹¹ Two systematic reviews concluded that antidepressants were effective in treating depression in older adults. In 1 review, older adults who received antidepressants were twice as likely to have remission from major or minor depression as older adults who received placebo (odds ratio [OR], 2.03 [95% CI, 1.67-2.46]).¹² The other review indicated that among community-dwelling older adults, 36% of those who received antidepressants were in remission at the end of the study compared with 21% of those who received placebo (OR, 2.13 [95% CI, 1.61-2.86]).¹³ In addition, 2 good-quality systematic reviews on the efficacy of psychotherapy in older adults found that older adults who received psychotherapy were more than twice as likely to have remission as those who received no treatment (OR, 2.47 [95% CI, 1.76-3.47] vs 2.63 [95% CI, 1.96-3.53]).^{12,14}

Pregnant and Postpartum Women

The USPSTF identified 6 fair- or good-quality trials (n = 11 869) (5 in postpartum women and 1 in pregnant women) that assessed the effect of screening for depression in pregnant and postpartum women.⁶ Trial participants were identified through primary care settings using the EPDS (cutoff scores varied) and included women with and without depression. None of the trials simply compared usual care with screening plus usual care. Two trials assessed minimal additional intervention beyond screening or feedback of screening results in postpartum¹⁵ and pregnant¹⁶ women, 2 trials assessed the effects of screening plus provider supports in postpartum women,^{16,17} and 2 trials assessed feedback of screening results plus adjunctive counseling by home health visitors in postpartum women.^{18,19} Studies varied by geographic location (United States, northern Europe, United Kingdom, and Hong Kong), length of follow-up (11 weeks to 16 months), and baseline depression rates (10% to 28%).

Despite the variation in trial design and population, results were reasonably consistent across the range of designs. Trials in postpartum women showed 28% to 59% reductions in risk of depression at follow-up compared with usual care. The reported effect was smaller (18%) and did not reach significance in the trial of pregnant women but was in the same direction.¹⁶ The 4 studies that reported remission or response rates reported significant improvements in both postpartum and pregnant women. The most applicable trial (US trial of screening plus provider supports) found that 45% of intervention participants reported a 5-point or greater reduction in 9-item PHQ score (an improvement considered to be clinically important) compared with 35% of usual care participants (OR, 1.74 [95% CI, 1.05-5.86]; adjusted for depression history, marital status, income, education, age, and degree of parenting stress).¹⁷

Eighteen trials examined the benefits of treatment interventions in women who screened positive for depression in primary care or community settings. Fifteen trials were in postpartum women (usually 6-12 weeks postpartum) and 3 trials were in pregnant women,²⁰⁻²² but all reported outcomes during the postpartum period. Only 1 small, short-term trial of screen-detected depression in postpartum women included antidepressants as an intervention.²³ The most commonly studied approach was CBT or related interventions that included CBT components. All 10 trials of CBT or CBT-related interventions, including the 2 trials in pregnant women, showed an increased likelihood of remission with treatment in the short term (≤ 7.8 months). The magnitude of effect in pregnant women was similar to that in postpartum women. Pooled results that used only the longest follow-up period within 1 year showed a 35% increase in the likelihood of remission with CBT (DerSimonian and Laird pooled relative risk, 1.34 [95% CI, 1.19-1.50]; $K = 10$; $I^2 = 7.9\%$) compared with usual care. The other 8 non-CBT studies examined a diverse range of interventions but did not provide sufficient evidence to draw conclusions for any one approach. There was also insufficient evidence to assess differences in effectiveness for patient subgroups.

Potential Harms of Screening and Treatment

General Adult Population and Older Adults

One trial in general adults reported no adverse events attributable to screening in a subset of participants with newly identified depression²⁴; none of the other effectiveness trials in general adults reported on harms. One trial in older adults reported paradoxical effects from screening, as previously discussed. No additional studies addressing harms of screening were identified in the review.

The 2009 USPSTF review found 7 studies that compared suicide-related events in adults who received SSRIs and other second-generation antidepressants vs placebo. No studies reported a significant increase in completed suicide rates in adults who received antidepressants compared with those who received placebo, although completed suicides were rare and, as a result, the power to detect a significant difference was limited.²⁵ For adults older than 65 years, antidepressant use seemed to be protective against suicidal behavior (OR, 0.06 [95% CI, 0.01-0.58]).²⁶ In addition, the 2009 USPSTF review identified 1 fair-quality study on bleeding risk in older adults who received SSRIs. Although patients 16 years and older were at increased risk of upper gastrointestinal bleeding during SSRI use, the risk increased significantly with age, from 4.1 hospitalizations per 1000 adults aged 65 to 70 years to 12.3 hospitalizations per 1000 adults aged 80 to 89 years. The odds of upper gastrointestinal bleeding in adults aged 40 to 79 years who were taking SSRIs (adjusted OR, 3.0 [95% CI, 2.1-4.4]) were much higher when they were also taking a nonsteroidal anti-inflammatory drug (adjusted OR, 15.6 [95% CI, 6.6-36.6]).²⁷

Pregnant and Postpartum Women

Only 1 trial, which focused on the effects of screening alone in postpartum women, specifically reported on adverse effects of screening and found none.¹⁵ None of the other screening trials showed any signals of concern. The literature search did not identify additional trials addressing harms of screening.

None of the trials addressing the benefits of behavioral-based interventions reported on harms of treatment. In addition, none of the trials showed paradoxical effects of concern. The review found no additional trials addressing the harms of behavioral-based interventions beyond those that were included for the benefits of treatment. The majority of the evidence on the harms of antidepressant treatment for depression in pregnant and postpartum women sponsored by the Agency for Healthcare Research and Quality.²⁸ This review included studies published between 1996 and 2013 and was supplemented with 12 additional fair- to good-quality observational studies ($n = 4\,759\,435$) published after the review.⁶ The review included 15 observational studies that provided evidence on the harms of antidepressants at unknown dosages in pregnant women with depression and an additional 109 observational studies that provided evidence on the harms of antidepressants in pregnant women whose depression status in either or both treatment groups was unknown. This observational evidence shows that second-generation antidepressant use during pregnancy may be associated with a small increase in risk of preeclampsia, postpartum hemorrhage, miscarriage, perinatal death, preterm birth, serotonin withdrawal syndrome, respiratory distress, pulmonary hypertension, major malformations, cardiac malformations, and being small for gestational age.

Estimate of Magnitude of Net Benefit

General Adult Population and Older Adults

The evidence from 5 RCTs, in addition to indirect evidence reviewed for the 2009 recommendation, supports moderate certainty that screening for depression in general adults is of moderate net benefit. The evidence for older adults is less clear, because the trials that assessed the direct effect of screening found no benefit and possibly even harm. However, given the strength of the indirect evidence (the accuracy of screening in older adults and the effectiveness of treatment in older adults), the inclusion of adults older than 65 years in the studies of all adults, and the weakness of the direct evidence on screening in older adults, the USPSTF concludes that the weight of evidence still favors a net benefit. However, more research on optimal screening approaches in older adults is imperative.

Pregnant and Postpartum Women

Direct and indirect evidence support moderate certainty that screening for depression in pregnant and postpartum women is of moderate net benefit. Six RCTs with varying degrees of additional support found direct benefit of screening, 23 studies confirmed the accuracy of the EPDS for identifying MDD, and 10 RCTs found benefit of treatment with CBT.⁶ Although most of the evidence (except for evidence on harms of SSRIs) is in postpartum women, the direction and magnitude of effect in pregnant women was consistent with the outcomes for postpartum women and for adults in general. It is important to note that the evidence on treatment benefit is primarily for nonpharmacologic interventions (ie, CBT), there is evidence of a small risk of harm to fetal health with SSRI use in pregnant women, and there is a lack of evidence on harms of SSRI use in postpartum women. Therefore, it is important that a range of treatment options are available for pregnant and postpartum women with

depression who are identified through screening and that treatment choices are made through shared decision making.

Response to Public Comment

A draft version of this recommendation statement was posted for public comment on the USPSTF website from July 28, 2015, to August 24, 2015. A number of comments requested a more detailed definition of what constitutes an "adequate system" for screening. The USPSTF revised the implementation section to clarify that a range of staff types, organizational arrangements, and settings can be used to support the goals of depression screening and provided a link to the Substance Abuse and Mental Health Services Administration registry of evidence-based mental health interventions as a resource. Comments suggested that access to depression screening and management resources would be useful. The USPSTF has now provided links to evidence-based depression screening and management toolkits for primary care settings. There were several requests to clarify the potential harms of SSRIs; in response, the USPSTF added information to the Discussion section. Finally, many concerns were expressed about barriers to effectively implementing screening within adequate systems of care; the USPSTF noted this as a research need.

Update of Previous USPSTF Recommendation

In 2009, the USPSTF recommended screening all adults when staff-assisted depression care supports are in place and selective screening based on professional judgment and patient preferences when such support is not available. In recognition that such support is now much more widely available and accepted as part of mental health care, the current recommendation statement has omitted the recommendation regarding selective screening, as it no longer represents current clinical practice. The current statement also specifically recommends screening for depression in pregnant and postpartum women, subpopulations that were not specifically reviewed for the 2009 recommendation.

Recommendations of Others

The American Academy of Family Physicians recommends screening for depression in the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.²⁹ The American Academy of Pediatrics recommends that pediatricians screen mothers for postpartum depression at the infant's 1-, 2-, and 4-month visits.³⁰ The American College of Preventive Medicine recommends that primary care clinicians screen all adults for depression and that all primary care clinicians should have systems in place, either within the primary care setting itself or through collaborations with mental health professionals, to ensure the accurate diagnosis and treatment of this condition.³¹ The American College of Obstetricians and Gynecologists recommends that clinicians screen patients at least once during the perinatal period for depression and anxiety symptoms. Screening must be coupled with appropriate follow-up and treatment when indicated (practices should be prepared to initiate medical therapy, refer patients to appropriate care, or both), and systems should be in place to ensure follow-up for diagnosis and treatment.³² The Canadian Task Force on Preventive Health Care does not recommend routinely screening for depression in adults who are at average risk of depression or in subgroups of the population who may be at increased risk of depression.³³ The Institute for Clinical Systems Improvement recommends that clinicians use a standardized instrument to screen for depression if it is suspected based on risk factors or presentation.³⁴ The Community Preventive Services Task Force recommends collaborative care for the management of depressive disorders based on strong evidence of effectiveness in improving depression symptoms, adherence to treatment, response to treatment, and remission and recovery from depression. This collaboration is designed to improve the routine screening and diagnosis of depressive disorders, as well as the management of diagnosed depression.⁴

ARTICLE INFORMATION

Authors/US Preventive Services Task Force

(USPSTF) members include the following individuals: Albert L. Siu, MD, MSPH; Kirsten Bibbins-Domingo, PhD, MD, MAS; David C. Grossman, MD, MPH; Linda Ciofu Baumann, PhD, RN, APRN; Karina W. Davidson, PhD, MASc; Mark Ebell, MD, MS; Francisco A. R. Garcia, MD, MPH; Matthew Gillman, MD, SM; Jessica Herzstein, MD, MPH; Alex R. Kemper, MD, MPH, MS; Alex H. Krist, MD, MPH; Ann E. Kurth, PhD, RN, MSN, MPH; Douglas K. Owens, MD, MS; William R. Phillips, MD, MPH; Maureen G. Phipps, MD, MPH; Michael P. Pignone, MD, MPH.

Affiliations of Authors/US Preventive Services

Task Force (USPSTF) members: Mount Sinai School of Medicine, New York (Siu); James J. Peters Veterans Affairs Medical Center, Bronx, New York (Siu); University of California, San Francisco (Bibbins-Domingo); Group Health Research Institute, Seattle, Washington (Grossman); University of Wisconsin, Madison (Baumann); Columbia University, New York, New York (Davidson); University of Georgia, Athens (Ebell);

Pima County Department of Health, Tucson, Arizona (Garcia); Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, Massachusetts (Gillman); Independent consultant, Washington, DC (Herzstein); Duke University, Durham, North Carolina (Kemper); Fairfax Family Practice, Fairfax, Virginia (Krist); Virginia Commonwealth University, Richmond (Krist); New York University, New York (Kurth); Veterans Affairs Palo Alto Health Care System, Palo Alto, California (Owens); Stanford University, Stanford, California (Owens); University of Washington, Seattle (Phillips); Brown University, Providence, Rhode Island (Phipps); University of North Carolina, Chapel Hill (Pignone).

Author Contributions: Dr Siu had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Siu, Grossman, Davidson, Ebell, Garcia, Owens, Phillips, Pignone.

Acquisition, analysis, or interpretation of data: Siu, Bibbins-Domingo, Baumann, Gillman, Herzstein, Kemper, Krist, Kurth, Phillips, Phipps, Pignone.

Drafting of the manuscript: Siu, Davidson, Ebell, Herzstein, Phillips.

Critical revision of the manuscript for important intellectual content: Siu, Bibbins-Domingo, Grossman, Baumann, Garcia, Gillman, Kemper, Krist, Kurth, Owens, Phillips, Phipps, Pignone.

Statistical analysis: Phillips.

Administrative, technical, or material support: Siu, Grossman, Davidson, Kurth, Phillips.

Study supervision: Siu, Garcia, Krist, Owens, Phillips.

Conflict of Interest Disclosures: All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported. Authors followed the policy regarding conflicts of interest described at <http://www.uspreventiveservicestaskforce.org/Page/Name/conflict-of-interest-disclosures>.

Funding/Support: The USPSTF is an independent, voluntary body. The US Congress mandates that the Agency for Healthcare Research and Quality (AHRQ) support the operations of the USPSTF.

Role of the Funder/Sponsor: AHRQ staff assisted in the following: development and review of the research plan, commission of the systematic evidence review from an Evidence-based Practice Center, coordination of expert review and public comment of the draft evidence report and draft recommendation statement, and the writing and preparation of the final recommendation statement and its submission for publication. AHRQ staff had no role in the approval of the final recommendation statement or the decision to submit for publication.

Disclaimer: Recommendations made by the USPSTF are independent of the US government. They should not be construed as an official position of the AHRQ or the US Department of Health and Human Services.

Additional Contributions: We thank Elisabeth Kato, MD, MRP, of AHRQ, who contributed to the writing of the manuscript, and Lisa Nicoletta, MA, of AHRQ, who assisted with coordination and editing.

REFERENCES

- Jarjoura D, Polen A, Baum E, Kropp D, Hetrick S, Rutecki G. Effectiveness of screening and treatment for depression in ambulatory indigent patients. *J Gen Intern Med.* 2004;19(1):78-84.
- Wells KB, Sherbourne C, Schoenbaum M, et al. Impact of disseminating quality improvement programs for depression in managed primary care: a randomized controlled trial. *JAMA.* 2000;283(2):212-220.
- Wells K, Sherbourne C, Schoenbaum M, et al. Five-year impact of quality improvement for depression: results of a group-level randomized controlled trial. *Arch Gen Psychiatry.* 2004;61(4):378-386.
- Improving mental health and addressing mental illness. Community Preventive Services Task Force. <http://www.thecommunityguide.org/mentalhealth/index.html>. Accessed December 2, 2015.
- Witters D, Liu D, Agrawal S. Depression costs US workplaces \$23 billion in absenteeism. Gallup. <http://www.gallup.com/poll/163619/depression-costs-workplaces-billion-absenteeism.aspx>. Accessed July 14, 2015.
- O'Connor E, Rossom RC, Henninger M, et al. *Screening for Depression in Adults: An Updated Systematic Evidence Review for the US Preventive Services Task Force: Evidence Synthesis No. 128 [AHRQ Publication No. 14-05208-EF-1]*. Rockville, MD: Agency for Healthcare Research and Quality; 2016.
- Beck CT, Gable RK. Comparative analysis of the performance of the Postpartum Depression Screening Scale with two other depression instruments. *Nurs Res.* 2001;50(4):242-250.
- Tandon SD, Cluxton-Keller F, Leis J, Le HN, Perry DF. A comparison of three screening tools to identify perinatal depression among low-income African American women. *J Affect Disord.* 2012;136(1-2):155-162.
- Williams JW Jr, Mulrow CD, Kroenke K, et al. Case-finding for depression in primary care: a randomized trial. *Am J Med.* 1999;106(1):36-43.
- US Preventive Services Task Force. Screening for depression in adults: US Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2009;151(11):784-792.
- Casacalenda N, Perry JC, Looper K. Remission in major depressive disorder: a comparison of pharmacotherapy, psychotherapy, and control conditions. *Am J Psychiatry.* 2002;159(8):1354-1360.
- Pinquart M, Duberstein PR, Lyness JM. Treatments for later-life depressive conditions: a meta-analytic comparison of pharmacotherapy and psychotherapy. *Am J Psychiatry.* 2006;163(9):1493-1501.
- Wilson K, Mottram P, Sivanranthan A, Nightingale A. Antidepressant versus placebo for depressed elderly. *Cochrane Database Syst Rev.* 2001;(2):CD000561.
- Pinquart M, Sørensen S. How effective are psychotherapeutic and other psychosocial interventions with older adults? a meta-analysis. *J Ment Health Aging.* 2001;7(2):207-243.
- Leung SS, Leung C, Lam TH, et al. Outcome of a postnatal depression screening programme using the Edinburgh Postnatal Depression Scale: a randomized controlled trial. *J Public Health (Oxf).* 2011;33(2):292-301.
- Wickberg B, Tjus T, Hwang P. Using the EPDS in routine antenatal care in Sweden: a naturalistic study. *J Reprod Infant Psychol.* 2005;23(1):33-41.
- Yawn BP, Dietrich AJ, Wollan P, et al; TRIPPD practices. TRIPPD: a practice-based network effectiveness study of postpartum depression screening and management. *Ann Fam Med.* 2012;10(4):320-329.
- Morrell CJ, Slade P, Warner R, et al. Clinical effectiveness of health visitor training in psychologically informed approaches for depression in postnatal women: pragmatic cluster randomised trial in primary care. *BMJ.* 2009;338:a3045.
- Glavin K, Smith L, Sørum R, Ellefsen B. Redesigning community postpartum care to prevent and treat postpartum depression in women: a one-year follow-up study. *J Clin Nurs.* 2010;19(21-22):3051-3062.
- Kozinszky Z, Dudas RB, Devosa I, et al. Can a brief antepartum preventive group intervention help reduce postpartum depressive symptomatology? *Psychother Psychosom.* 2012;81(2):98-107.
- McGregor M, Coghlan M, Dennis CL. The effect of physician-based cognitive behavioural therapy among pregnant women with depressive symptomatology: a pilot quasi-experimental trial. *Early Interv Psychiatry.* 2014;8(4):348-357.
- O'Mahen H, Himle JA, Fedock G, Henshaw E, Flynn H. A pilot randomized controlled trial of cognitive behavioral therapy for perinatal depression adapted for women with low incomes. *Depress Anxiety.* 2013;30(7):679-687.
- Appleby L, Warner R, Whitton A, Faragher B. A controlled study of fluoxetine and cognitive-behavioural counselling in the treatment of postnatal depression. *BMJ.* 1997;314(7085):932-936.
- Rost K, Nutting P, Smith J, Werner J, Duan N. Improving depression outcomes in community primary care practice: a randomized trial of the quEST intervention: Quality Enhancement by Strategic Teaming. *J Gen Intern Med.* 2001;16(3):143-149.
- O'Connor EA, Whitlock EP, Gaynes BN, Beil TL. *Screening for Depression in Adults and Older Adults in Primary Care: An Updated Systematic Review: Evidence Synthesis No. 75 [AHRQ Publication No. 10-05143-EF-1]*. Rockville, MD: Agency for Healthcare Research and Quality; 2009.
- Stone M, Jones ML. Clinical review: relationship between antidepressant drugs and suicidality in adults. In: Laughren TP. Memorandum: Overview for December 13 Meeting of Psychopharmacologic Drugs Advisory Committee (PDAC). Center for Drug Evaluation and Research, US Food and Drug Administration. <http://www.fda.gov/ohrms/dockets/jac/06/briefing/2006-4272b1-01-FDA.pdf>. Accessed July 14, 2015.
- Dalton SO, Sørensen HT, Johansen C. SSRIs and upper gastrointestinal bleeding: what is known and how should it influence prescribing? *CNS Drugs.* 2006;20(2):143-151.
- McDonagh MS, Matthews A, Phillipi C, et al. Depression drug treatment outcomes in pregnancy and the postpartum period: a systematic review and meta-analysis. *Obstet Gynecol.* 2014;124(3):526-534.
- Clinical preventive service recommendation: depression. American Academy of Family Physicians. <http://www.aafp.org/patient-care/clinical-recommendations/all/depression.html>. Accessed July 14, 2015.
- Earls MF; Committee on Psychosocial Aspects of Child and Family Health American Academy of Pediatrics. Incorporating recognition and management of perinatal and postpartum depression into pediatric practice. *Pediatrics.* 2010;126(5):1032-1039.
- Nimalasuriya K, Compton MT, Guillory VJ; Prevention Practice Committee of the American College of Preventive Medicine. Screening adults for depression in primary care: a position statement of the American College of Preventive Medicine. *J Fam Pract.* 2009;58(10):535-538.
- Committee on Obstetric Practice. The American College of Obstetricians and Gynecologists Committee Opinion No. 630: screening for perinatal depression. *Obstet Gynecol.* 2015;125(5):1268-1271.
- Joffres M, Jaramillo A, Dickinson J, et al; Canadian Task Force on Preventive Health Care. Recommendations on screening for depression in adults. *CMAJ.* 2013;185(9):775-782.
- Mitchell J, Trangle M, Degnan B, et al. *Adult Depression in Primary Care*. Bloomington, MN: Institute for Clinical Systems Improvement; 2013.