

Screening for Suicide Risk in Adolescents, Adults, and Older Adults in Primary Care: U.S. Preventive Services Task Force Recommendation Statement

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Description: Update of the 2004 U.S. Preventive Services Task Force (USPSTF) recommendation on screening for suicide risk.

Methods: The USPSTF reviewed the evidence on the accuracy and reliability of instruments used to screen for increased suicide risk, benefits and harms of screening for increased suicide risk, and benefits and harms of treatments to prevent suicide.

Population: This recommendation applies to adolescents, adults, and older adults in the general population who do not have an identified psychiatric disorder.

Recommendation: The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for suicide risk in adolescents, adults, and older adults in a primary care setting. (I statement)

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The U.S. 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 concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for suicide risk in adolescents, adults, and older adults in primary care. (I statement)

Go to the Clinical Considerations section for suggestions for practice regarding the I statement.

See the **Figure** for a summary of the recommendation and suggestions for clinical practice.

Appendix Table 1 describes the USPSTF grades, and **Appendix Table 2** describes the USPSTF classification of levels of certainty about net benefit (both tables are available at www.annals.org).

RATIONALE

Importance

Suicide was the 10th leading overall cause of death in the United States in 2010 and 1 of the 5 leading causes of death for children, adolescents, and adults aged 10 to 54 years. Rates of suicide attempts and deaths vary by sex, age, and race or ethnicity (1). Psychiatric disorders and previous suicide attempts increase suicide risk (2).

Detection

There is insufficient evidence to conclude that screening adolescents, adults, and older adults in primary care adequately identifies patients at risk for suicide who would not otherwise be identified on the basis of an existing mental health disorder, emotional distress, or previous suicide attempt.

Benefits of Detection and Early Intervention or Treatment

Evidence on the benefits of screening adolescents, adults, and older adults for suicide risk in primary care is inadequate.

See also:

Summary for Patients. I-22
Related article: *Ann Intern Med.* 2013;158:741-54.

Web-Only

CME quiz
Consumer Fact Sheet

Figure. Screening for suicide risk in adolescents, adults, and older adults in primary care: clinical summary of U.S. Preventive Services Task Force recommendation.

Annals of Internal Medicine



**SCREENING FOR SUICIDE RISK IN ADOLESCENTS, ADULTS, AND OLDER ADULTS IN PRIMARY CARE
CLINICAL SUMMARY OF U.S. PREVENTIVE SERVICES TASK FORCE RECOMMENDATION**

Population	Adolescents, adults, and older adults in the general U.S. population who do not have an identified psychiatric disorder
Recommendation	No recommendation. Grade: I statement
Risk Assessment	<p>Suicide risk varies by age, sex, and race/ethnicity. Risk factors for suicide attempt include presence of a mental health disorder; serious adverse childhood events; family history of suicide; prejudice or discrimination associated with being lesbian, gay, bisexual, or transgender; access to lethal means; and possibly a history of being bullied, sleep disturbances, and chronic medical conditions.</p> <p>In men, socioeconomic factors, such as low income, occupation, and unemployment, are also related to suicide risk. In older adults, such additional risk factors as social isolation, spousal bereavement, neurosis, affective disorders, physical illness, and functional impairment increase the risk for suicide. Risk factors of special importance to military veterans include traumatic brain injury, separation from service within the past 12 months, posttraumatic stress disorder, and other mental health conditions.</p> <p>Individual risk factors have only limited ability to predict suicide in an individual at a particular time. A large proportion of Americans have a risk factor for suicide; however, only a small proportion will attempt suicide, and even fewer will die from it.</p>
Screening Tests	Screening tests for suicide risk vary and have a wide range of accuracy. Data on screening tests are limited.
Treatment	Most effective treatments to reduce suicide risk include psychotherapy. The most commonly studied psychotherapy intervention is cognitive behavioral therapy and related approaches, including dialectical behavior therapy, problem-solving therapy, and developmental group therapy.
Balance of Benefits and Harms	The evidence on screening for suicide risk in primary care is insufficient, and the balance of benefits and harms of screening cannot be determined.
Other Relevant USPSTF Recommendations	The USPSTF has made recommendations on screening for depression in adolescents and adults. These recommendations are available at 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 www.uspreventiveservicestaskforce.org.

Evidence is inadequate on whether interventions reduce suicide risk in patients identified through primary care screening or similar methods; most evidence for treatment effectiveness is in high-risk populations who were not discovered through screening, such as persons who presented to an emergency department because of a suicide attempt.

Harms of Detection and Early Intervention or Treatment

Evidence on the possible harms of screening adolescents, adults, and older adults for suicide risk is inadequate.

USPSTF Assessment

The USPSTF concludes that the evidence on screening for suicide risk in primary care is insufficient and that the balance of benefits and harms cannot be determined.

CLINICAL CONSIDERATIONS

Patient Population Under Consideration

This recommendation applies to adolescents, adults, and older adults in the general U.S. population who do not have an identified psychiatric disorder.

**Suggestions for Practice Regarding the I Statement
Potential Preventable Burden**

In 2010, suicide accounted for more than 1.4 million years of potential life lost before age 85 years, or 4.3% of total years of potential life lost in the United States (3). Past studies estimated that 38% of adults (50% to 70% of older adults) visited their primary care provider within 1 month of dying by suicide (4). Nearly 90% of suicidal youths were seen in primary care during the previous 12 months (5).

Given that most persons who die by suicide have a psychiatric disorder and many have been seen recently in primary care, primary care clinicians should be aware of psychiatric problems in their patients and should consider asking these patients about suicidal ideation and referring them for psychotherapy, pharmacotherapy, or case management. The USPSTF recommends that primary care clinicians screen adolescents and adults for depression when appropriate systems are in place to ensure adequate diagnosis, treatment, and follow-up. Primary care clinicians should also focus on patients during periods of high suicide

risk, such as immediately after discharge from a psychiatric hospital or after an emergency department visit for deliberate self-harm (6). Recent evidence suggests that interventions during these high-risk periods are effective in reducing suicide deaths.

Potential Harms

Evidence on the potential harms of screening for suicide risk is insufficient.

Costs

The monetary cost of screening for suicide risk is minimal. Additional time would be needed in the primary care visit to accommodate screening.

Current Practice

In a study of U.S. primary care providers, suicide was discussed in 11% of encounters with patients who had (unbeknown to their providers) screened positive for suicidal ideation (7). Similarly, 36% of U.S. primary care physicians explored suicide in encounters with standardized patients presenting with major depression or adjustment disorder or those who sought antidepressants (8). Less than one quarter of surveyed primary care pediatricians or family practice physicians in Maryland reported that they frequently or always screened adolescents for suicide risk factors.

Risk Factors for Suicide

Although evidence to determine whether the general asymptomatic population should be screened for suicide risk is inadequate, providers should consider identifying patients with risk factors or those who seem to have high levels of emotional distress and referring them for further evaluation.

Suicide risk varies by age, sex, and race or ethnicity. In men, the greatest increases in suicide rate were in those aged 50 to 54 years (49.4% [from 20.6 to 30.7 deaths per 100 000]) and those aged 55 to 59 years (47.8% [from 20.3 to 30.0 deaths per 100 000]). In women, the suicide rate increased with age, and the largest percentage increase was in those aged 60 to 64 years (59.7% [from 4.4 to 7.0 deaths per 100 000]) (9).

American Indians and Alaskan natives aged 14 to 65 years and non-Hispanic white persons older than 18 years have higher-than-average rates of suicide death, and the risk among non-Hispanic white persons continues to increase after age 75 years. The highest rates are seen in American Indians and Alaskan natives aged 19 to 24 years and non-Hispanic white persons older than 75 years. Among adolescents, Hispanic females are at especially high risk for attempting suicide (9).

The greatest increases in suicide rate from 1999 to 2010 by racial or ethnic population in men and women overall were among American Indians and Alaskan natives

(65.2%) and white persons (40.4%). Among American Indians and Alaskan natives, the suicide rate in women increased by 81.4% (from 5.7 to 10.3 deaths per 100 000) and the rate in men increased by 59.5% (from 17.0 to 27.2 deaths per 100 000). Among white persons, the rate in women increased by 41.9% (from 7.4 to 10.5 deaths per 100 000) and the rate in men increased by 39.6% (from 24.5 to 34.2 deaths per 100 000) (9).

Increased risk is also associated with the presence of a mental health disorder, such as depression, schizophrenia, posttraumatic stress disorder, and substance use disorders. About 87% of patients who die by suicide meet the criteria for 1 or more mental health disorders. A lifetime history of depression more than doubles the odds of a suicide attempt in U.S. adults, and depression is probably present in 50% to 79% of youths attempting suicide, although it may not always be recognized (2).

Other important risk factors for suicide attempt include serious adverse childhood events; family history of suicide; prejudice or discrimination associated with being lesbian, gay, bisexual, or transgender; access to lethal means; and possibly a history of being bullied, sleep disturbances, and such chronic medical conditions as epilepsy and chronic pain. In males, socioeconomic factors, such as low income, occupation, and unemployment, are also related to suicide risk (2).

In older adults, additional risk factors, such as social isolation, spousal bereavement, neurosis, affective disorders, physical illness, and functional impairment, increase the risk for suicide. Risk factors of special importance to military veterans include traumatic brain injury, separation from service within the past 12 months, posttraumatic stress disorder, and other mental health conditions (2).

Individual risk factors have limited ability to predict suicide in an individual at a particular time. A large proportion of Americans have 1 of these risk factors; however, only a small proportion will attempt suicide, and even fewer will die by it (2).

Screening Tests

The reviewed studies used various screening tools. One example is the Suicide Risk Screen, a 20-item screening instrument embedded in a broader self-report questionnaire administered in high schools to youths at risk for dropping out of school. Another tool consists of 3 suicide-related items ("thoughts of death," "wishing you were dead," and "feeling suicidal" within the past month) targeting primary care patients aged 18 to 70 years with scheduled appointments.

Sensitivity and specificity of screening tools generally ranged from 52% to 100% and from 60% to 98%, respectively. The instruments showed a wide range in accuracy, but data were limited and no instruments were examined in more than 1 study (2).

Treatment

Most effective treatments to reduce risk for suicide attempt include psychotherapy. The most commonly studied psychotherapy intervention was cognitive behavioral therapy and related approaches, including dialectical behavior therapy, problem-solving therapy, and developmental group therapy. Other approaches included psychodynamic or interpersonal therapy. Although most of these treatments are not customarily administered by primary care providers in the office, patients can be referred to behavioral health providers for them. The primary care provider can play a continued role in the care of these patients by monitoring them during the process, providing follow-up, and coordinating with other care providers (2).

Other Approaches to Prevention

In addition to approaching the problem of suicide from an individual level in primary care, approaches are being implemented at community, regional, and national levels. In the health care system, laws requiring coverage parity between mental and physical health disorders will give more persons the ability to access care for psychiatric problems associated with suicide, such as depression. Efforts to coordinate care among programs that address mental health, substance use, and physical health can also increase access to care. Activities that have been shown to be correlated with lower suicide rates in other countries include detoxification of domestic gas in the United Kingdom and discontinuation of the use of highly toxic pesticides in Sri Lanka. These actions were associated with reductions in suicide of 19% to 33% and 50%, respectively, providing evidence that engineering controls can be effective. Such activities as installing barriers at frequent suicide jump spots may also be effective (10, 11).

On an individual level, patients with a history of suicide attempt or suicidal ideation should not have easy access to means that may be used in suicide attempts, such as firearms or other weapons, household chemicals or poisons, or materials that can be used for hanging or suffocation (11).

Useful Resources

The USPSTF recommends that physicians screen adolescents and adults for depression when appropriate systems are in place to ensure adequate diagnosis, treatment, and follow-up (available at www.uspreventiveservicestaskforce.org).

The Community Preventive Services Task Force has related recommendations on collaborative care approaches to managing depression, mental health parity policy, and home-based depression care for older adults (available at www.thecommunityguide.org/mentalhealth/index.html).

In 2012, the U.S. Surgeon General and the National Action Alliance for Suicide Prevention released the National Strategy for Suicide Prevention, which includes goals and objectives for action (available at www.surgeongeneral.gov).

[.gov/library/reports/national-strategy-suicide-prevention/full-report.pdf](http://www.surgeongeneral.gov/library/reports/national-strategy-suicide-prevention/full-report.pdf)).

The Suicide Prevention Resource Center, supported by the Substance Abuse and Mental Health Services Administration, offers various resources on suicide prevention (available at www.sprc.org).

OTHER CONSIDERATIONS

Research Needs and Gaps

More research on the epidemiology and natural history of suicide risk is needed. Persons who attempt suicide and survive and those who die by suicide are overlapping populations. Some individuals die on their first attempt and may never be seen in primary care, whereas others may repeat nonfatal attempts and never die or die after multiple attempts. More research to understand these subgroups and to determine who accesses primary care is needed.

Several key areas need further research to improve the evidence base for screening for suicide risk in primary care. For screening to be effective, more information on the performance characteristics of screening tests, particularly in average-risk adolescents, is needed. More information is needed to determine whether more individuals with screen-detected suicidal ideation could be helped before they act. Studies examining the benefits and potential harms of targeted versus general screening would also be helpful. The possibility of incorporating technology into large-scale screening studies should also be explored.

Treatment studies in populations with screen-detected suicide risk in all age groups are needed. Targeting persons at high risk, such as American Indians and Hispanic persons, may help determine whether tailored therapies are more effective in these populations. It is critical that more investigations on the benefits and risks of interventions targeting average- and high-risk adolescents be conducted. Trials including interventions aimed at parents have shown some promise and should be further explored.

It would also be valuable to replicate trials in adults that focus primarily on the process of care (including quality of care and patient adherence) rather than the specific content of treatment sessions because trials on the latter have shown moderate-sized but statistically nonsignificant effects.

Investigating ways to link clinical and community resources might also lead to other possible methods to help patients at risk for suicide.

DISCUSSION

Burden of Disease

In 2010, suicide was the 10th leading cause of death among all age groups in the United States, leading to almost 37 000 deaths at a rate of 11.8 deaths per 100 000 persons (1). Although suicide rates in the United States remained steady from 1990 through the early 2000s, they have generally been increasing over the past decade, partic-

ularly between 2005 and 2009 (12). Suicide is among the 5 leading causes of death in children, adolescents, and adults aged 10 to 54 years (1).

In 2011, 7.8% of high school students reported attempting suicide at least once during the previous 12 months, and 2.4% of students made a suicide attempt that required treatment due to self-injury (2). In the same year, an estimated 3.7% of adults aged 18 years or older reported having serious thoughts of suicide during the past year, and 0.5% attempted suicide (13).

Scope of Review

In 2004, the USPSTF concluded that the evidence was insufficient to recommend for or against routine screening by primary care clinicians to detect suicide risk in the general population and issued an I statement, given that there was no evidence at the time that screening for suicide risk reduced suicide attempts or mortality. The USPSTF noted that there was limited evidence on the accuracy of screening tools to identify suicide risk in the primary care setting, including tools to identify high-risk persons. The USPSTF also found insufficient evidence that treatment of high-risk persons reduces suicide attempts or mortality. The USPSTF found no studies that directly addressed the harms of screening and treatment for suicide risk. As a result, the USPSTF could not determine the balance of benefits and harms of screening for suicide risk in primary care.

In updating the 2004 recommendation, the USPSTF reviewed evidence on the accuracy and reliability of instruments used to screen for increased suicide risk, benefits and harms of screening for increased suicide risk, and benefits and harms of treatment to prevent suicide.

Accuracy of Screening Tests

The USPSTF reviewed 4 studies that evaluated the accuracy of screening instruments to identify persons at increased risk for suicide. Of these, 2 were conducted in adolescent populations that were considered to be at increased risk. One was conducted in an outpatient mental health setting in patients who had a prior diagnosis of depression (14). The second was conducted in a school setting and consisted of a questionnaire administered by research staff to students at risk for school dropout (15). An additional study involved primary care patients aged 65 years or older (16), and the final study involved primary care patients aged 18 to 70 years (17).

Each study used a different tool to screen patients for increased suicide risk. All 4 studies were considered to be fair-quality. A strength of these studies was that each applied the same reference standard to all screened participants and recruited the sample from a single identified population. However, as mentioned previously, neither of the studies of adolescents was conducted in a primary care setting and both recruited participants who were already at increased risk for suicide. Only 1 of the 4 studies reported

that the reference test was independent of the screening test (16). An additional concern was the lag time between the screening and reference tests, with only 1 study conducting both within 24 hours of each other. Lag times for other studies ranged from 0 to 35 days or were not reported.

Effectiveness of Early Detection

The USPSTF found no direct evidence that screening for suicide risk is associated with improved health outcomes in asymptomatic adolescents or adults. Although studies evaluating screening were more likely to be conducted in a primary care population, studies assessing the effectiveness of treatment were predominantly conducted in patients known to be at high risk. In particular, many treatment studies were of patients with previous suicide attempts or a history of mental illness, such as borderline personality disorder or depression. The proportion of patients in control groups with a history of suicide attempts in treatment studies ranged from 11% to 68%, evidence that the study populations were at high risk for suicide (2).

Three broad treatment approaches to suicide prevention have been evaluated: psychotherapy, enhanced usual care (approaches designed to improve the quality or format of recommended treatment or improve patient adherence to usual care), and medications. Of these, psychotherapy providing specific treatment approaches showed better outcomes than enhanced usual care; few studies addressed medications. Suicide attempts were reduced by a pooled average of 32% in 11 psychotherapy trials in adults. Interventions that focused on enhancing usual care showed little effect on suicide deaths, suicide attempts, or related outcomes. A single large trial of older primary care patients reported a 20% reduction in the relative risk for a combined outcome of suicide attempts and ideation; however, the study involved education and training of a volunteer sample of general practitioners, who may have been more motivated to improve their practice than a random sample of general practitioners (18).

Minimal data are available on the effectiveness of using medications to prevent suicidal behavior. The lone study was a short-term, fair-quality trial that assessed the use of lithium (19). The study reported hazard ratios that suggested a possible benefit for suicide attempts but were not statistically significant. There was a statistically significantly lower rate of suicide deaths per patient-year in the intervention group; however, the study had high attrition rates and there were only 3 suicide deaths.

The evidence base for treatment interventions in adolescents is limited. Study populations primarily consisted of participants at high risk for suicide, most with recent suicide attempts or acute suicidal ideation. The effect of treatment to prevent suicide on suicide deaths could not be determined because there was only 1 death in any of the 3 trials that reported this outcome. Suicide attempts were not reduced with psychotherapy treatment at 6 to 18

months. The CI for the pooled effect was wide and crossed zero, ranging from a 25% reduction in risk to a 31% increase. Therefore, the possibility of harm or benefit cannot be ruled out with the existing evidence from psychotherapy trials (2).

The sole enhanced usual care study in adolescents also had a sample of high-risk patients, all of whom had a history of suicide attempts, threats, or ideation (20). Although the study was rated fair-quality, the groups were not entirely comparable at baseline and retention varied. The study did not find any differences between the groups in suicidal ideation, depression, or hopelessness at the 12-month follow-up, thus providing no evidence of treatment benefit.

Potential Harms of Screening

Three studies reported on the potential adverse effects of screening. One was a trial of adults with depression in 4 primary care practices in the United Kingdom. The other 2 were conducted in high school settings.

In the study of adults, no statistically significant increases in suicide attempts or ideation were seen at 2 weeks after screening (21). The trial, however, had a relatively small sample ($n = 443$) and limited power. In addition, differential ascertainment may have biased the results; a higher proportion of participants who were screened withdrew consent for follow-up (6.6% of screened vs. 2.2% of unscreened).

In both of the high school studies, students were randomly assigned to screening for suicide risk on 1 of 2 occasions 1 to 2 days apart. The items used to screen for suicide risk were embedded in an instrument that addressed broader mental health issues. The larger trial ($n = 2342$), conducted in 6 high schools in New York, randomly assigned the students at the classroom level (22). No immediate increase in students reporting suicidal ideation or mean suicidal ideation score was reported.

The second study, conducted in Australia, was smaller ($n = 308$) and found no differences between the 2 groups in anger, confusion, depression, fatigue, or tension based on Profile of Mood States scores immediately after screening for suicide risk or completion of other mental health items (23). “Vigor” was the only characteristic that was reported to be higher in screened participants. After both groups had completed the suicide risk screening items, 8.9% reported that the suicide-related items were “moderately distressing” or “very distressing” and 31.5% found them to be “a little distressing.”

Because of the paucity of data and study limitations, the possibility of short-term harms from participation in suicide screening cannot be dismissed, although no serious adverse events were documented in the studies. Other potential harms of screening include harms that may result from treatment in persons with screen-detected risk after referral.

Few treatment trials in adults reported adverse events. One cognitive behavioral therapy trial reported that none of the suicide attempts was believed to be a result of study participation (24). In a study of a video-based problem-solving intervention, none of the participants withdrew because of worsening symptoms (25). A study of writing as a means for reducing suicidal ideation reported that 3 participants asked to speak with a supervisor because they became upset after writing or their writing reflected current suicidal ideation (26). Not enough data were available to draw conclusions on whether harms occurred due to screening in adults.

Of the 11 adolescent psychotherapy treatment trials reporting suicide attempts, 4 noted non-statistically significant increases in suicide attempts, ranging from 22% to 113% (27–29). One was a small trial that had few events and wide CIs associated with the effect; however, the other trials probably had enough events to represent stable but still statistically nonsignificant effects. Thus, the possibility of harm due to treatment cannot be ruled out in currently or recently suicidal adolescents receiving therapy.

In the medication trial that evaluated treatment with lithium, a higher percentage of participants in the treatment group than in the placebo group withdrew from the study because of adverse events (13% vs. 2%), although the statistical significance was not reported and overall dropout rates were similar between the groups (19).

Estimate of Magnitude of Net Benefit

The USPSTF found inadequate evidence on the diagnostic accuracy of screening tests for suicide risk, the effectiveness of treatment, and the harms of screening or treatment. In attempting to build a chain of indirect evidence from screening to treatment to beneficial health outcomes, the link between screening and treatment is problematic because of the poor fit between the populations in the 2 bodies of evidence. Therefore, the USPSTF concludes that the evidence on the benefits and harms of screening is lacking for adolescents, adults, and older adults.

Response to Public Comments

A draft version of this recommendation statement was posted for public comment on the USPSTF Web site from 23 April to 21 May 2013. Most comments generally agreed with the recommendation statement. However, many requested clarification about whether it applies only to primary care settings. Several comments expressed concern that primary care providers would interpret the I statement as a statement against screening for suicide risk. In response to these comments, the USPSTF clarified that the recommendation applies to screening in a primary care setting, updated statistics on suicide, included additional information on risk factors, expanded the Research Needs and Gaps section, and updated the Recommendations of Others section.

UPDATE OF PREVIOUS RECOMMENDATION

In 2004, the USPSTF concluded that there was insufficient evidence to recommend for or against routine screening by primary care clinicians to detect suicide risk in the general population (I statement). After reviewing new data from studies conducted since the last review, the USPSTF again concludes that there is insufficient evidence to determine the balance of benefits and harms of screening for suicide risk.

RECOMMENDATIONS OF OTHERS

Several groups have made recommendations or commented on screening patients for suicide risk. The American Academy of Child and Adolescent Psychiatry recommends that clinicians be aware of patients at high risk for suicide (30). The American Academy of Pediatrics recommends that pediatricians ask questions about mood disorders, sexual orientation, suicidal thoughts, and other risk factors associated with suicide during routine health care visits (31). The American Medical Association states that all adolescents should be asked annually about behaviors or emotions that indicate recurrent or severe depression or risk for suicide and that physicians should screen for depression or suicidal risk in those with risk factors, such as family dysfunction, declining school grades, and history of abuse (32). The American College of Obstetricians and Gynecologists recommends that all adolescents be screened annually for emotions and behaviors that indicate recurrent or severe depression and thoughts of killing or harming themselves. In addition, suicide risk and depressive symptoms are included as part of the College's annual well-woman visit evaluation and counseling recommendations for females aged 13 to 65 years or older (33). The American Academy of Family Physicians concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for suicide risk in adolescents, adults, and older adults in primary care (34). The recommendation of the Canadian Task Force on Preventive Health Care also mirrors the 2004 USPSTF recommendation in that it found poor evidence to include or exclude routine evaluation of suicide risk during a periodic health examination (35).

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APPENDIX: U.S. PREVENTIVE SERVICES TASK FORCE

Members of the U.S. Preventive Services Task Force at the time this recommendation was finalized† are Michael L. LeFevre, MD, MSPH, *Chair* (University of Missouri School of Medicine, Columbia, Missouri); Albert L. Siu, MD, MSPH, *Co-Vice Chair* (Mount Sinai School of Medicine, New York, and James J. Peters Veterans Affairs Medical Center, Bronx, New York); Kirsten Bibbins-Domingo, PhD, MD, *Co-Vice Chair* (University of California, San Francisco, San Francisco, California); Linda Ciofu Baumann, PhD, RN (University of Wisconsin, Madison, Wisconsin); Susan J. Curry, PhD (University of Iowa College of Public Health, Iowa City, Iowa); Karina W. Davidson, PhD, MASc (Columbia University, New York, New York); Mark Ebell, MD, MS (University of Georgia, Athens, Georgia); Francisco A.R. García, MD, MPH (Pima County Department of Health, Tucson, Arizona); Matthew Gillman, MD, SM (Harvard

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† For a list of current Task Force members, go to www.uspreventiveservicestaskforce.org/members.htm.

Appendix Table 1. 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/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/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/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.

Appendix Table 2. 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; and 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 that are not generalizable to routine primary care practice; and a lack of information on important health outcomes. More information may allow an 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 on the basis of the nature of the overall evidence available to assess the net benefit of a preventive service.