Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL GUIDELINE CLEARINGHOUSE

# General

## Guideline Title

Screening for syphilis infection in nonpregnant adults and adolescents: U.S. Preventive Services Task Force recommendation statement.

## Bibliographic Source(s)

U.S. Preventive Services Task Force (USPSTF). Screening for syphilis infection in nonpregnant adults and adolescents: U.S. Preventive Services Task Force recommendation statement. JAMA. 2016 Jun 7;315(21):2321-7. [22 references] PubMed

## Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: U.S. Preventive Services Task Force. Screening for syphilis infection: recommendation statement. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 Jul. 8 p. [18 references].

This guideline meets NGC's 2013 (revised) inclusion criteria.

# Recommendations

## Major Recommendations

The U.S. Preventive Services Task Force (USPSTF) grades its recommendations (A, B, C, D, or I) and identifies the levels of certainty regarding net benefit (High, Moderate, and Low). The definitions of these grades can be found at the end of the "Major Recommendations" field.

Summary of Recommendation and Evidence

The USPSTF recommends screening for syphilis infection in persons who are at increased risk for infection. (A recommendation)

Clinical Considerations

Patient Population under Consideration

This recommendation applies to asymptomatic, nonpregnant adults and adolescents who are at increased risk for syphilis infection. Screening for syphilis in nonpregnant populations is an important public health approach to preventing the sexual transmission of syphilis and subsequent vertical transmission of congenital syphilis.

Assessment of Risk

The USPSTF recommends screening for syphilis in persons who are at increased risk for infection. Based on 2014 surveillance data, men who

have sex with men (MSM) and men and women living with human immunodeficiency virus (HIV) have the highest risk for syphilis infection; 61.1% of cases of primary and secondary syphilis occurred among MSM, and approximately one-half of all MSM diagnosed with syphilis were also coinfected with HIV. One study found that rates of syphilis coinfection were 5 times higher in MSM living with HIV compared with men living with HIV who do not have sex with men. Based on older study data from northern California, the adjusted relative risk for syphilis infection in persons living with HIV (vs. those without HIV) was 86.0 (95% confidence interval [CI], 78.6-94.1); 97% of those living with HIV and with incident syphilis were male.

When deciding which other persons to screen for syphilis, clinicians should be aware of the prevalence of infection in the communities they serve, as well as other sociodemographic factors that may be associated with increased risk of syphilis infection. Factors associated with increased prevalence that clinicians should consider include history of incarceration, history of commercial sex work, certain racial/ethnic groups, and being a male younger than 29 years, as well as regional variations that are well described. Men accounted for 90.8% of all cases of primary and secondary syphilis in 2014. Men aged 20 to 29 years had the highest prevalence rate, nearly 3 times higher than that in the average United States (U.S.) male population. Syphilis prevalence rates are also higher in certain racial/ethnic groups (among both men and women); in 2014, prevalence rates of primary and secondary syphilis were 18.9 cases per 100,000 black individuals, 7.6 cases per 100,000 Hispanic individuals, 7.6 cases per 100,000 American Indian/Alaska Native individuals, 6.5 cases per 100,000 Native Hawaiian/Pacific Islander individuals, 3.5 cases per 100,000 white individuals, and 2.8 cases per 100,000 Asian individuals. The southern U.S. comprises the largest proportion of syphilis cases (41%); however, the case rate is currently highest in the western U.S. (7.9 cases per 100,000 persons). Metropolitan areas in general have increased prevalence rates of syphilis. Risk factors for syphilis often do not present independently and may frequently overlap. In addition, local prevalence rates may change over time, so clinicians should be aware of the latest data and trends for their specific population and geographic area.

Although direct evidence on screening among nonpregnant persons who are not at increased risk for syphilis infection is lacking, based on the established test performance characteristics of current screening tests and the low prevalence rate of syphilis in this population, the yield of screening is likely low. Therefore, screening in this population may result in high false-positive rates and overtreatment.

Screening Tests

Current screening tests for syphilis rely on detection of antibodies rather than direct detection of the organism. Screening for syphilis infection is a 2-step process involving an initial nontreponemal test (Venereal Disease Research Laboratory [VDRL] or rapid plasma reagin [RPR] test) followed by a confirmatory treponemal antibody detection test (fluorescent treponemal antibody absorption [FTA-ABS] or *Treponema pallidum* particle agglutination [TP-PA] test). A reverse sequence screening algorithm has been developed in which an automated treponemal test (such as enzyme-linked, chemiluminescence, or multiplex flow immunoassays) is performed first, followed by a nontreponemal test. If the test results are discordant in the reverse sequence algorithm, a second treponemal test (preferably using a different treponemal antibody) is performed. There is limited evidence on the accuracy of screening using the reverse sequence algorithm. Findings from two studies suggest that using a reverse sequence algorithm may detect additional cases of syphilis missed by the usual algorithm. However, the clinical significance of these additional cases is unclear, and more studies are needed to better understand the implications of using a reverse sequence algorithm for screening in a primary care setting. Newer screening technologies that include rapid syphilis tests are also currently emerging. These tests have the potential to be performed in nontraditional and nonclinical settings; however, more evidence is needed on the effectiveness of these tests as part of a screening program in a primary care setting.

Screening Intervals

The optimal screening frequency for persons who are at increased risk for syphilis infection is not well established. MSM or persons living with HIV may benefit from more frequent screening. Initial studies suggest that detection of syphilis infection in MSM or persons living with HIV improves when screening is performed every 3 months compared with annually.

Treatment

In its 2015 guidelines on the treatment of sexually transmitted diseases, the Centers for Disease Control and Prevention (CDC) recommends parenteral penicillin G benzathine for the treatment of syphilis. Dosage and route may vary depending on the stage of disease and patient characteristics. To obtain the most up-to-date information, clinicians are encouraged to access the CDC Web site.

Additional Approaches to Prevention

Public health agencies and local health departments have a critical role in the prevention and treatment of syphilis. Local health departments are often responsible for investigating incident cases of syphilis and identifying potential contacts who may need further testing or treatment. Primary care clinicians should be aware of applicable local public health laws and reporting requirements for syphilis cases.

Useful Resources

Persons who are at risk for or have been diagnosed with syphilis infection may engage in behavior that increases their risk for other sexually transmitted infections. The USPSTF has made a separate recommendation on screening for syphilis in pregnant women, as well as screening for HIV, gonorrhea, and chlamydia in sexually active adults and adolescents and behavioral counseling interventions to prevent sexually transmitted infections (available at http://www.uspreventiveservicestaskforce.org ).

Definitions

What the USPSTF Grades Mean and Suggestions for Practice

| Grade | Grade Definitions | 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 (see the "Major Recommendations" field). If offered, patients should understand the uncertainty about the balance of benefits and harms. |

USPSTF Levels of Certainty Regarding Net Benefit

Definition: 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.

| 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 factors such as:<br>• The number, size, or quality of individual studies<br>• Inconsistency of findings across individual studies<br>• Limited generalizability of findings to routine primary care practice<br>• Lack of coherence in the chain of evidence<br>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: |

| Level of Certainty | Description |
|---|---|
| | • The limited number or size of studies<br>• Important flaws in study design or methods<br>• Inconsistency of findings across individual studies<br>• Gaps in the chain of evidence<br>• Findings not generalizable to routine primary care practice<br>• A lack of information on important health outcomes<br><br>More information may allow an estimation of effects on health outcomes. |

## Clinical Algorithm(s)

None provided

# Scope

## Disease/Condition(s)

Syphilis infection

## Guideline Category

Prevention

Screening

## Clinical Specialty

Family Practice

Infectious Diseases

Internal Medicine

Obstetrics and Gynecology

Pediatrics

## Intended Users

Advanced Practice Nurses

Allied Health Personnel

Nurses

Physician Assistants

Physicians

Public Health Departments

## Guideline Objective(s)

To update the 2004 U.S. Preventive Services Task Force (USPSTF) recommendation on screening for syphilis infection in nonpregnant adults

## Target Population

Asymptomatic, nonpregnant adults and adolescents who are at increased risk for syphilis infection

Note: The U.S. Preventive Services Task Force (USPSTF) addresses screening for syphilis in pregnant women in a separate recommendation statement.

## Interventions and Practices Considered

Screening for syphilis infection

## Major Outcomes Considered

- Key Question 1: What is the effectiveness of screening for syphilis in reducing complications of the disease and transmission or acquisition of other sexually transmitted infections (STIs) in asymptomatic, nonpregnant, sexually active adults and adolescents? What is the effectiveness of specific screening intervals and screening among population subgroups?
- Key Question 2: What is the effectiveness of risk assessment instruments or other risk stratification methods for identifying individuals who are at increased risk for syphilis?
- Key Question 3: What is the accuracy of currently used screening tests and strategies (e.g., sequence of tests) for detecting syphilis infection?
- Key Question 4: What are the harms of screening (e.g., labeling and false-positive or false-negative results)?

# Methodology

## Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

## Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Pacific Northwest Evidence-based Practice Center (EPC) for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Sources and Searches

A research librarian searched the Cochrane Central Register of Controlled Trials through October 2015, Cochrane Database of Systematic Reviews through October 2015, and Ovid MEDLINE January 2004 to October 2015 for relevant studies and systematic reviews and manually reviewed reference lists. In March 2016, an additional search revealed no new major studies affecting the conclusions or understanding of the evidence and therefore the related USPSTF recommendation. The search strategies are listed in the eMethods in the evidence report supplement (see the "Availability of Companion Documents" field).

Study Selection

Two investigators independently reviewed 2000 titles and abstracts and 448 full-text articles against prespecified inclusion criteria (see Figure 2 in the evidence report). Discrepancies were resolved through consensus. Non–English-language articles and studies published as abstracts were not included.

The target population included asymptomatic, sexually active men and women, including adolescents. Populations at increased risk, based on incidence rates, include men who have sex with men (MSM), individuals who engage in high-risk sexual behavior, commercial sex workers, individuals who exchange sex for drugs, individuals who are human immunodeficiency virus (HIV) positive, and adults in correctional facilities.

Key questions evaluated the effectiveness of screening in reducing syphilis complications and transmission; effectiveness of risk assessment methods; accuracy of diagnostic tests and strategies; and harms related to screening, including false-positive and false-negative diagnoses, and related adverse effects. The reviewers included randomized clinical trials, controlled observational studies, and ecological studies to evaluate screening effectiveness; diagnostic accuracy studies to determine accuracy of screening tests and strategies; and studies of various designs to assess harms. Traditionally, screening for syphilis infection is a 2-step process involving an initial nontreponemal test followed by a confirmatory treponemal test (see Table 1 in the evidence report). Diagnostic accuracy studies meeting eligibility criteria used credible reference standards, described the study population, defined positive screening test results, and reported performance characteristics (e.g., sensitivity, specificity) or provided data to calculate them. Studies of testing strategies were also included because variations in the sequence of testing have been proposed to reduce the time and labor involved with syphilis screening. Studies of harms were included that compared screened vs. unscreened populations.

Studies applicable to clinical settings and practices in the United States (U.S.) were emphasized based on the clinical relevance of participants and health care services and the use of screening tests that are currently available and cleared by the U.S. Food and Drug Administration (FDA) for clinical use (see eTable 1 in the evidence report supplement). Therefore, tests of specimens obtained in nonclinical settings and most point-of-care or in-house tests were excluded. These inclusion criteria reflect the scope of the USPSTF recommendations regarding technologies and medications.

## Number of Source Documents

See the literature search flow diagram (Figure 2) in the evidence report (see the "Availability of Companion Documents" field) for a summary of evidence search and selection.

Articles included for Key Questions:

- Key Question 1: 4 studies
- Key Question 2: 0 studies
- Key Question 3: 5 studies
- Key Question 4: 0 studies

## Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

## Rating Scheme for the Strength of the Evidence

Using predefined criteria developed by the U.S. Preventive Services Task Force (USPSTF) (see eTable 2 in the evidence report supplement [see the "Availability of Companion Documents" field]), two investigators independently rated the quality of studies (good, fair, poor) and resolved discrepancies through consensus. See eTable 3 and eTable 4 in the evidence report supplement for the quality ratings of individual studies.

## Methods Used to Analyze the Evidence

Systematic Review with Evidence Tables

## Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Pacific Northwest Evidence-based Practice Center (EPC) for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Extraction and Quality Assessment

One investigator abstracted details about study design, patient population, setting, screening method, analysis, follow-up, and results, and a second investigator confirmed the data. Using predefined criteria developed by the (see eTable 2 in the evidence report supplement), 2 investigators independently rated the quality of studies (good, fair, poor) and resolved discrepancies through consensus. See eTable 3 and eTable 4 in the evidence report supplement for the quality ratings of individual studies.

Data Synthesis and Analysis

Studies were qualitatively synthesized based on methods developed by the USPSTF. Statistical meta-analysis was not performed because of methodological limitations and heterogeneity in study designs, interventions, populations, and other factors. Studies included in prior reviews were reviewed for consistency with current results; however, lack of studies and differences in scope, Key Questions, and inclusion criteria limited aggregate synthesis with the updated evidence.

The aggregate internal validity (quality) of the body of evidence was assessed for each key question using methods developed by the USPSTF (see Table 2 in the evidence report) based on the number, quality, and size of studies; consistency of results between studies; and directness of evidence.

Studies were not available to address several key questions, including the effectiveness of screening in reducing syphilis complications and transmission, effectiveness of risk assessment methods, and harms related to screening. No studies were conducted specifically in adolescent populations.

## Methods Used to Formulate the Recommendations

Balance Sheets

Expert Consensus

## Description of Methods Used to Formulate the Recommendations

The U.S. Preventive Services Task Force (USPSTF) systematically reviews the evidence concerning both the benefits and harms of widespread implementation of a preventive service. It then assesses the certainty of the evidence and the magnitude of the benefits and harms. On the basis of this assessment, the USPSTF assigns a letter grade to each preventive service signifying its recommendation about provision of the service (see table below). An important, but often challenging, step is determining the balance between benefits and harms to estimate "net benefit" (that is, benefits minus harms).

U.S. Preventive Services Task Force Recommendation Grid*

| **Certainty of Net Benefit** | **Magnitude of Net Benefit** | | | |
|---|---|---|---|---|
| | **Substantial** | **Moderate** | **Small** | **Zero/Negative** |
| **High** | A | B | C | D |
| **Moderate** | B | B | C | D |
| **Low** | Insufficient | | | |

**A, B, C, D*, and *I (Insufficient)* represent the letter grades of recommendation or statement of insufficient evidence assigned by the USPSTF after assessing certainty and magnitude of net benefit of the service (see the "Rating Scheme for the Strength of the Recommendations" field).

The overarching question that the USPSTF seeks to answer for every preventive service is whether evidence suggests that provision of the service would improve health outcomes if implemented in a general primary care population. For screening topics, this standard could be met by a large randomized controlled trial (RCT) in a representative asymptomatic population with follow-up of all members of both the group "invited for screening" and the group "not invited for screening."

Direct RCT evidence about screening is often unavailable, so the USPSTF considers indirect evidence. To guide its selection of indirect evidence, the USPSTF constructs a "chain of evidence" within an analytic framework. For each key question, the body of pertinent literature is critically appraised, focusing on the following 6 questions:

1. Do the studies have the appropriate research design to answer the key question(s)?
2. To what extent are the existing studies of high quality? (i.e., what is the internal validity?)
3. To what extent are the results of the studies generalizable to the general U.S. primary care population and situation? (i.e., what is the external validity?)
4. How many studies have been conducted that address the key question(s)? How large are the studies? (i.e., what is the precision of the evidence?)
5. How consistent are the results of the studies?
6. Are there additional factors that assist the USPSTF in drawing conclusions (e.g., presence or absence of dose–response effects, fit within a biologic model)?

The next step in the USPSTF process is to use the evidence from the key questions to assess whether there would be net benefit if the service were implemented. In 2001, the USPSTF published an article that documented its systematic processes of evidence evaluation and recommendation development. At that time, the USPSTF's overall assessment of evidence was described as good, fair, or poor. The USPSTF realized that this rating seemed to apply only to how well studies were conducted and did not fully capture all of the issues that go into an overall assessment of the evidence about net benefit. To avoid confusion, the USPSTF has changed its terminology. Whereas individual study quality will continue to be characterized as good, fair, or poor, the term certainty will now be used to describe the USPSTF's assessment of the overall body of evidence about net benefit of a preventive service and the likelihood that the assessment is correct. Certainty will be determined by considering all 6 questions listed above; the judgment about certainty will be described as high, moderate, or low.

In making its assessment of certainty about net benefit, the evaluation of the evidence from each key question plays a primary role. It is important to note that the USPSTF makes recommendations for real-world medical practice in the United States and must determine to what extent the evidence for each key question—even evidence from screening RCTs or treatment RCTs—can be applied to the general primary care population. Frequently, studies are conducted in highly selected populations under special conditions. The USPSTF must consider differences between the general primary care population and the populations studied in RCTs and make judgments about the likelihood of observing the same effect in actual practice.

It is also important to note that one of the key questions in the analytic framework refers to the potential harms of the preventive service. The USPSTF considers the evidence about the benefits and harms of preventive services separately and equally. Data about harms are often obtained from observational studies because harms observed in RCTs may not be representative of those found in usual practice and because some harms are not completely measured and reported in RCTs.

Putting the body of evidence for all key questions together as a chain, the USPSTF assesses the certainty of net benefit of a preventive service by asking the 6 major questions listed above. The USPSTF would rate a body of convincing evidence about the benefits of a service that, for example, derives from several RCTs of screening in which the estimate of benefits can be generalized to the general primary care population as "high" certainty (see the "Rating Scheme for the Strength of the Recommendations" field). The USPSTF would rate a body of evidence that was not clearly applicable to general practice or has other defects in quality, research design, or consistency of studies as "moderate" certainty. Certainty is "low" when, for example, there are gaps in the evidence linking parts of the analytic framework, when evidence to determine the harms of treatment is unavailable, or when evidence about the benefits of treatment is insufficient. Table 4 in the methodology document listed below (see "Availability of Companion Documents" field) summarizes the current terminology used by the USPSTF to describe the critical assessment of evidence at all 3 levels: individual studies, key questions, and overall certainty of net benefit of the preventive service.

Sawaya GF, Guirguis-Blake J, LeFevre M, Harris R, Petitti D; U.S. Preventive Services Task Force. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med. 2007;147(12):871-875. [5 references].

## Rating Scheme for the Strength of the Recommendations

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

| Grade | Grade Definitions | 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. |

| Grade | Grade Definitions | Suggestions for Practice |
|---|---|---|
| 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 (see the "Major Recommendations" field). If offered, patients should understand the uncertainty about the balance of benefits and harms. |

USPSTF Levels of Certainty Regarding Net Benefit

Definition: 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.

| 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 factors such as:<br>• The number, size, or quality of individual studies<br>• Inconsistency of findings across individual studies<br>• Limited generalizability of findings to routine primary care practice<br>• Lack of coherence in the chain of evidence<br>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:<br>• The limited number or size of studies<br>• Important flaws in study design or methods<br>• Inconsistency of findings across individual studies<br>• Gaps in the chain of evidence<br>• Findings not generalizable to routine primary care practice<br>• A lack of information on important health outcomes<br>More information may allow an estimation of effects on health outcomes. |

## Cost Analysis

The U.S. Preventive Services Task Force (USPSTF) does not consider the costs of providing a service in this assessment.

## Method of Guideline Validation

Comparison with Guidelines from Other Groups

External Peer Review

Internal Peer Review

## Description of Method of Guideline Validation

Peer Review

Before the U.S. Preventive Services Task Force (USPSTF) makes its final determinations about recommendations on a given preventive service, the Evidence-based Practice Center and the Agency for Healthcare Research and Quality send the draft evidence review to 4 to 6 external experts and to Federal agencies and professional and disease-based health organizations with interests in the topic. The experts are asked to examine the review critically for accuracy and completeness and to respond to a series of specific questions about the document. The draft evidence review is also posted on the USPSTF Web site for public comment. After assembling these external review comments and documenting the proposed response to key comments, the topic team presents this information to the USPSTF in memo form. In this way, the USPSTF can consider these external comments before it votes on its recommendations about the service. Draft recommendation statements are then circulated for comment among reviewers representing professional societies, voluntary organizations, and Federal agencies, as well as posted on the USPSTF Web site for public comment. These comments are discussed before the final recommendations are confirmed.

Response to Public Comment

A draft version of this recommendation statement was posted for public comment on the USPSTF Web site from December 15, 2015, to January 18, 2016. A few comments sought clarification on which populations were considered to be at increased risk. The USPSTF added language to the Clinical Considerations section to clarify that men and women living with human immunodeficiency virus (HIV) who are not men who have sex with men (MSM) are considered to be at increased risk for syphilis. In addition, men and women (and not just young men) who have identified sociodemographic risk factors associated with increased prevalence rates of syphilis may be considered at increased risk as well. In response to public comments, the USPSTF provided updated surveillance data from 2014. A few comments also requested additional information on various screening tests. However, these tests are outside the scope of this recommendation for various reasons (e.g., diagnostic tests performed in symptomatic patients or newer technologies not yet evaluated for screening in a primary care setting).

Comparison with Guidelines from Other Groups

Recommendations for screening from the following groups were discussed: the Centers for Disease Control and Prevention (CDC), the American Congress of Obstetricians and Gynecologists, the HIV Medicine Association (part of the Infectious Diseases Society of America), and the American Academy of Family Physicians.

# Evidence Supporting the Recommendations

## Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

# Benefits/Harms of Implementing the Guideline Recommendations

## Potential Benefits

Benefits of Early Detection and Treatment

The U.S. Preventive Services Task Force (USPSTF) found convincing evidence that treatment with antibiotics can lead to substantial health benefits in nonpregnant persons who are at increased risk for syphilis infection by curing syphilis infection, preventing manifestations of late-stage disease, and preventing sexual transmission to others.

## Potential Harms

Harms of Early Detection and Treatment

The U.S. Preventive Services Task Force (USPSTF) found no direct evidence on the harms of screening for syphilis in nonpregnant persons who are at increased risk for infection. Potential harms of screening include false-positive results that require clinical evaluation, unnecessary anxiety to the patient, and the potential stigma of having a sexually transmitted infection. The harms of antibiotic treatment are well established, and the magnitude of these harms is no greater than small.

# Qualifying Statements

## Qualifying Statements

- The U.S. Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific clinical preventive services for patients without obvious 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.
- Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an official position of the Agency for Healthcare Research and Quality (AHRQ) or the U.S. Department of Health and Human Services.

# Implementation of the Guideline

## Description of Implementation Strategy

The experiences of the first and second U.S. Preventive Services Task Force (USPSTF), as well as that of other evidence-based guideline efforts, have highlighted the importance of identifying effective ways to implement clinical recommendations. Practice guidelines are relatively weak tools for changing clinical practice when used in isolation. To effect change, guidelines must be coupled with strategies to improve their acceptance and feasibility. Such strategies include enlisting the support of local opinion leaders, using reminder systems for clinicians and patients, adopting standing orders, and audit and feedback of information to clinicians about their compliance with recommended practice.

In the case of preventive services guidelines, implementation needs to go beyond traditional dissemination and promotion efforts to recognize the added patient and clinician barriers that affect preventive care. These include clinicians' ambivalence about whether preventive medicine is part of their job, the psychological and practical challenges that patients face in changing behaviors, lack of access to health care or of insurance coverage for preventive services for some patients, competing pressures within the context of shorter office visits, and the lack of organized systems in most practices to ensure the delivery of recommended preventive care.

Dissemination strategies have changed dramatically in this age of electronic information. While recognizing the continuing value of journals and other print formats for dissemination, the USPSTF will make all its products available through its Web site. The combination of electronic access and extensive material in the public domain should make it easier for a broad audience of users to access USPSTF materials and adapt them for their local needs. Online access to USPSTF products also opens up new possibilities for the appearance of the annual, pocket-size *Guide to Clinical Preventive Services*.

To be successful, approaches for implementing prevention have to be tailored to the local level and deal with the specific barriers at a given site, typically requiring the redesign of systems of care. Such a systems approach to prevention has had notable success in established staff-model health maintenance organizations, by addressing organization of care, emphasizing a philosophy of prevention, and altering the training and incentives for clinicians. Staff-model plans also benefit from integrated information systems that can track the use of needed services and generate automatic reminders aimed at patients and clinicians, some of the most consistently successful interventions. Information systems remain a major challenge for individual clinicians' offices, however, as well as for looser affiliations of practices in network-model managed care and independent practice associations, where data on patient visits, referrals, and test results are not always centralized.

## Implementation Tools

Mobile Device Resources

Patient Resources

Pocket Guide/Reference Cards

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

# Institute of Medicine (IOM) National Healthcare Quality Report Categories

## IOM Care Need

Staying Healthy

## IOM Domain

Effectiveness

Patient-centeredness

# Identifying Information and Availability

## Bibliographic Source(s)

U.S. Preventive Services Task Force (USPSTF). Screening for syphilis infection in nonpregnant adults and adolescents: U.S. Preventive Services Task Force recommendation statement. JAMA. 2016 Jun 7;315(21):2321-7. [22 references] PubMed

## Adaptation

Not applicable: The guideline was not adapted from another source.

## Date Released

2016 Jun 7

## Guideline Developer(s)

U.S. Preventive Services Task Force - Independent Expert Panel

## Guideline Developer Comment

The U.S. Preventive Services Task Force (USPSTF) is a federally-appointed panel of independent experts. Conclusions of the USPSTF do not necessarily reflect policy of the U.S. Department of Health and Human Services or its agencies.

## Source(s) of Funding

The U.S. Preventive Services Task Force (USPSTF) is an independent, voluntary body. The U.S. Congress mandates that the Agency for Healthcare Research and Quality (AHRQ) support the operations of the USPSTF.

## Guideline Committee

U.S. Preventive Services Task Force (USPSTF)

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*Members of the Task Force at the time this recommendation was finalized. For a list of current Task Force members, go to www.uspreventiveservicestaskforce.org/members.htm.

## Financial Disclosures/Conflicts of Interest

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Conflict of Interest Disclosures

All authors have completed and submitted the International Committee of Medical Journal Editors (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.

## Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: U.S. Preventive Services Task Force. Screening for syphilis infection: recommendation statement. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 Jul. 8 p. [18 references].

This guideline meets NGC's 2013 (revised) inclusion criteria.

## Guideline Availability

Available from the Journal of the American Medical Association (JAMA) Web site.

## Availability of Companion Documents

The following are available:

Evidence Reviews:

- Cantor AG, Pappas M, Daeges M, Nelson HD. Screening for syphilis: updated evidence report and systematic review for the U.S. Preventive Services Task Force. JAMA. 2016 Jun 7;315(21):2328-37. Available from the Journal of the American Medical Association (JAMA) Web site .
- Cantor AG, Pappas M, Daeges M, Nelson HD. Screening for syphilis: updated evidence report and systematic review for the U.S. Preventive Services Task Force. Supplemental online content. JAMA. 2016 Jun. 13 p. Available from the JAMA Web site .
- Cantor A, Nelson HD, Daeges M, Pappas M. Screening for syphilis in nonpregnant adolescents and adults: systematic review to update the 2004 U.S. Preventive Services Task Force recommendation. Evidence Synthesis No. 136. AHRQ Publication No. 14-05213-EF-1. Rockville (MD): Agency for Healthcare Research and Quality; 2016 Jun. 88 p. Available from the U.S. Preventive Services Task Force (USPSTF) Web site .

Background Articles:

- Barton MB et al. How to read the new recommendation statement: methods update from the U.S. Preventive Services Task Force. Ann Intern Med. 2007;147:123-7.
- Guirguis-Blake J et al. Current processes of the U.S. Preventive Services Task Force: refining evidence-based recommendation development. Ann Intern Med. 2007;147:117-22.
- Sawaya GF et al. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med. 2007;147:871-5.

Available from the USPSTF Web site .

The following are also available:

- Screening for syphilis infection in nonpregnant adults and adolescents: clinical summary. Rockville (MD): U.S. Preventive Services Task Force; 2016 Jun. 1 p. Available from the USPSTF Web site .
- A continuing medical education (CME) activity is available from the JAMA Web site .

The Electronic Preventive Services Selector (ePSS) is an application designed to provide primary care clinicians and health care teams timely decision support regarding appropriate screening, counseling, and preventive services for their patients. It is based on the current, evidence-based recommendations of the USPSTF and can be searched by specific patient characteristics, such as age, sex, and selected behavioral risk factors.

## Patient Resources

The following is available:

- Screening for syphilis infection in nonpregnant adults and adolescents: consumer guide. Rockville (MD): U.S. Preventive Services Task Force. 2016 Jun. 4 p. Available from the U.S. Preventive Services Task Force (USPSTF) Web site .

Myhealthfinder is a tool that provides personalized recommendations for clinical preventive services specific to the user's age, gender, and pregnancy status. It features evidence-based recommendations from the USPSTF and is available at www.healthfinder.gov .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

## NGC Status

This NGC summary was completed by ECRI on July 20, 2004. This summary was updated by ECRI Institute on August 12, 2016. The updated information was verified by the guideline developer on August 30, 2016.

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