

[Close window](#)[Print Summary](#)**Guideline Title**

Preventive services for adults.

Bibliographic Source(s)

Wilkinson J, Bass C, Diem S, Gravley A, Harvey L, Maciosek M, McKeon K, Milteer L, Owens J, Rothe P, Snellman L, Solberg L, Vincent P. Preventive services for adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2013 Sep. 107 p. [183 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Wilkinson J, Bass C, Diem S, Gravley A, Harvey L, Hayes R, Johnson K, Maciosek M, McKeon K, Milteer L, Morgan J, Rothe P, Snellman L, Solberg L, Storlie C, Vincent P. Preventive services for adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Sep. 96 p.

Scope**Disease/Condition(s)**

Preventable diseases or conditions, such as:

- Alcohol abuse
- Myocardial infarction and stroke (aspirin chemoprophylaxis)
- Breast cancer
- Cervical cancer
- Chlamydia
- Colorectal cancer
- Hypertension
- Influenza
- Dyslipidemia
- Pneumococcal pneumonia
- Tobacco use

Guideline Category

Counseling
Evaluation
Prevention
Risk Assessment
Screening

Clinical Specialty

Family Practice
Geriatrics
Internal Medicine
Obstetrics and Gynecology
Preventive Medicine

Intended Users

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Health Plans
Hospitals
Managed Care Organizations
Nurses

Physician Assistants
Physicians

Guideline Objective(s)

- To provide a comprehensive approach to the provision of evidence-based preventive services including screening maneuvers, immunizations, counseling and education
- To assist in the prioritization of screening maneuvers, immunizations, counseling and education
- To increase the rate of patients up-to-date with Level I preventive services

Note: This guideline is not intended to diagnose or treat any condition; if a health issue or condition is found or suspected, or a screening maneuver is abnormal, other guidelines address the details of subsequent evaluation, testing, and management.

Target Population

Average-risk, asymptomatic adults age 18 and older, whose health status and life expectancy are sufficient for them to benefit from these preventive services

Note: This guideline generally does not apply to pregnant women, individuals with chronic disorders, or high-risk populations (certain exceptions are noted).

Interventions and Practices Considered

Preventive Services That Must Be Delivered

1. Alcohol abuse; hazardous and harmful drinking screening and brief counseling
2. Aspirin chemoprophylaxis counseling
3. Breast cancer screening
4. Cervical cancer screening
5. Chlamydia screening
6. Colorectal cancer screening
7. Hypertension screening
8. Influenza immunization
9. Lipid screening
10. Pneumococcal immunization
11. Tobacco use screening and brief intervention

Preventive Services That Should Be Delivered

1. Abdominal aortic aneurysm screening
2. Depression screening
3. Folic acid chemoprophylaxis counseling
4. Hearing screening
5. Hepatitis B immunization
6. Hepatitis C virus infection screening
7. Herpes zoster/shingles immunization
8. Human immunodeficiency virus (HIV) screening
9. Human papillomavirus (HPV) immunization
10. Intimate partner violence screening and elderly and vulnerable adult abuse screening
11. Inactivated polio vaccine (IPV) immunization
12. Measles, mumps, rubella (MMR) immunization
13. Obesity screening
14. Osteoporosis screening
15. Tetanus-diphtheria immunization (Td/Tdap)
16. Varicella immunization
17. Vision screening

Preventive Services Left to the Judgment of Individual Medical Groups, Clinicians, and Their Patients

1. Advance directives counseling
2. Bimanual pelvic exam for screening
3. Calcium and vitamin D chemoprophylaxis counseling
4. Clinical breast exam screening
5. Dementia routine screening
6. Drug abuse screening and counseling
7. Injury prevention screening and counseling
8. Preconception counseling
9. Pregnancy prevention counseling
10. Prostate cancer screening
11. Sexually transmitted infection (STI) counseling

12. STI screening (other than HIV and chlamydia)
13. Skin cancer screening and counseling
14. Thyroid dysfunction screening

Major Outcomes Considered

- Effectiveness of screening tests
- Effectiveness of counseling and education
- Effectiveness of immunization
- Predictive value of screening tests

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

A consistent and defined process is used for literature search and review for the development and revision of Institute for Clinical Systems Improvement (ICSI) guidelines. The PubMed database was utilized and the literature search was divided into two stages to identify systematic reviews (stage I), and randomized controlled trials, meta-analyses and other literature (stage II). Literature search terms used for this revision are below and include literature from May 2012 through March 2013. Search terms included U.S. Preventive Services Task Force, hepatitis C, HIV, and domestic violence.

Number of Source Documents

Not stated

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

Quality of Evidence and Strength of Recommendations

Category	Quality Definitions	Strong Recommendation	Weak Recommendation
High Quality Evidence	Further research is very unlikely to change confidence in the estimate of effect.	The work group is confident that the desirable effects of adhering to this recommendation outweigh the undesirable effects. This is a strong recommendation for or against. This applies to most patients.	The work group recognizes that the evidence, though of high quality, shows a balance between estimates of harms and benefits. The best action will depend on local circumstances, patient values or preferences.
Moderate Quality Evidence	Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate.	The work group is confident that the benefits outweigh the risks, but recognizes that the evidence has limitations. Further evidence may impact this recommendation. This is a recommendation that likely applies to most patients.	The work group recognizes that there is a balance between harms and benefit, based on moderate quality evidence, or that there is uncertainty about the estimates of the harms and benefits of the proposed intervention that may be affected by new evidence. Alternative approaches will likely be better for some patients under some circumstances.
Low Quality Evidence	Further research is very likely to have an important impact on confidence in the estimate of effect and is likely to change. The estimate or any estimate of effect is very uncertain.	The work group feels that the evidence consistently indicates the benefit of this action outweighs the harms. This recommendation might change when higher quality evidence becomes available.	The work group recognizes that there is significant uncertainty about the best estimates of benefits and harms.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses
Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

New Guideline Development Process

A work group consisting of 6 to 12 members that includes physicians, nurses, pharmacists, other healthcare professionals relevant to the topic, and an Institute for Clinical Systems Improvement (ICSI) staff facilitator develops each document. Ordinarily, one of the physicians will be the leader. Most work group members are recruited from ICSI member organizations, but if there is expertise not represented by ICSI members, 1 or 2 work group members may be recruited from medical groups, hospitals or other organizations that are not members of ICSI. Patients on occasion are invited to serve on work groups.

The work group will meet for 7 to 8 three-hour meetings to develop the guideline. A literature search and review is performed and the work group members, under the coordination of the ICSI staff facilitator, develop the algorithm and write the annotations and literature citations.

Once the final draft copy of the guideline is developed, the guideline goes to the ICSI members for critical review.

Revision Process of Existing Guidelines

ICSI scientific documents are revised every 12 to 24 months as indicated by changes in clinical practice and literature. For documents that are revised on a 24-month schedule, ICSI checks with the work group on an annual basis to determine if there have been changes in the literature significant enough to cause the document to be revised earlier or later than scheduled. For yearly reviewed documents, ICSI checks with every work group 6 months before the scheduled revision to determine if there have been changes in the literature significant enough to cause the document to be revised earlier than scheduled.

Literature Search

ICSI staff, working with the work group to identify any new pertinent clinical trials, systematic reviews, or regulatory statements and other professional guidelines, conduct a literature search.

Revision

The work group will meet for 1 to 2 three-hour meetings to review the literature, respond to member organization comments, and revise the document as appropriate.

A second review by members is indicated if there are changes or additions to the document that would be unfamiliar or unacceptable to member organizations. If a review by members is not needed, the document goes to the appropriate steering committee for approval according to the criteria outlined in the "Description of Method of Guideline Validation" field.

Rating Scheme for the Strength of the Recommendations

See the "Rating Scheme for the Strength of the Evidence" field.

Cost Analysis

Screening and providing brief interventions for problem drinking is among the most effective preventive services in primary care, and, like tobacco cessation counseling, is among the very few that are actually cost-saving from a societal perspective.

Cost-effectiveness analyses suggest that birth cohort screening for hepatitis C virus is cost-effective, although no clinical data are yet available.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Critical Review Process

The purpose of critical review is to provide an opportunity for the clinicians in the member groups to review the science behind the recommendations and focus on the content of the guideline. Critical review also provides an opportunity for clinicians in each group to come to consensus on feedback they wish to give the work group and to consider changes necessary across systems in their organization to implement the guideline.

All member organizations are expected to respond to critical review guidelines. Critical review of guidelines is a criterion for continued membership within Institute for Clinical Systems Improvement (ICSI).

After the critical review period, the guideline work group reconvenes to review the comments and make changes, as appropriate. The work group prepares a written response to all comments.

Document Approval

Each document is approved by the Committee for Evidence-Based Practice (CEBP).

The committee will review and approve each guideline/protocol, based on the following criteria:

- The aim(s) of the document is clearly and specifically described.
- The need for and importance of the document is clearly stated.
- The work group included individuals from all relevant professional groups and had the needed expertise.
- Patient views and preferences were sought and included.
- The work group has responded to all feedback and criticisms reasonably.
- Potential conflicts of interest were disclosed and do not detract from the quality of the document.
- Systematic methods were used to search for the evidence to assure completeness and currency.
- Health benefits, side effects, risks and patient preferences have been considered in formulating recommendations.
- The link between the recommendation and supporting evidence is clear.
- Where the evidence has not been well established, recommendations based on community practice or expert opinion are clearly identified.
- Recommendations are specific and unambiguous.
- Different options for clinical management are clearly presented.
- Clinical highlights and recommendations are easily identifiable.
- Implementation recommendations identify key strategies for *health care systems* to support implementation of the document.
- The document is supported with practical and useful tools to ease *clinician* implementation.
- Where local resource availability may vary, alternative recommendations are clear.
- Suggested measures are clear and useful for quality/process improvement efforts.

Once the document has been approved, it is posted on the ICSI Web site and released to members for use.

Recommendations

Major Recommendations

Note from the National Guideline Clearinghouse (NGC) and the Institute for Clinical Systems Improvement (ICSI): For a description of what has changed since the previous version of this guidance, refer to [Summary of Changes Report — September 2013](#). In addition, ICSI has made a decision to transition to the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system as a method of assessing the quality of evidence and writing recommendations. **This document is in transition to the GRADE methodology.**

Transition steps incorporating GRADE methodology for this document include the following:

- All new literature considered by the work group for this revision has been assessed using GRADE methodology.
- The strength of the recommendations is being assessed.

The recommendations for preventive services in adults are presented in the form of two tables accompanied by detailed annotations. Four levels of service appear in the Annotation Table, with each service name listed alphabetically within its level. The second table, "Preventive Services Addressed in Alphabetical Order," has been included to facilitate locating a particular service even if the reader does not know which level of service is affiliated with it. The tables are provided in the [original guideline document](#) at the ICSI Web site. Clinical highlights and selected annotations (numbered to correspond with the Annotation Table) follow.

Class of evidence (Low Quality, Moderate Quality, and High Quality) and strength of recommendation (Weak or Strong) definitions are repeated at the end of the "Major Recommendations" field.

The work group has prioritized the services included in this guideline; they are ranked by evidence of effectiveness, based upon the sum of their clinically preventable burden and cost effectiveness.

Level I preventive services: Clinicians and care systems *must* assess the need for and recommend these services to every patient. These have the highest value and are worthy of attention at every opportunity.

Level II preventive services: Clinicians and care systems *should* assess the need for and recommend these services to every patient. These have demonstrated value, although less than Level I services, and should be provided whenever possible.

Level III preventive services: Clinicians and care systems *could* recommend these services to patients, but only after careful consideration of costs and benefits. These are services for which the evidence of effectiveness is currently incomplete or equivocal, and generally of low quality, or which may have the potential for significant harm. Providing these services is left to the judgment of individual medical groups, clinicians and their patients. Decisions about preventive services in particular should be made based on the principles of shared decision-making.

Level IV preventive services: These services are *not* supported by evidence and should not be recommended. They may have insufficient evidence of effectiveness, clear evidence of lack of effectiveness, or the potential for significant harm without any benefit.

Choosing Wisely. The Choosing Wisely logo will appear in the original guideline document whenever a recommendation from a medical specialty society participating in the Choosing Wisely Campaign is in alignment with ICSI work group recommendations.

Clinical Highlights

- All clinic contacts—whether acute, chronic, or for preventive services—are opportunities for prevention. Incorporate appropriate preventive services at every opportunity.
- Address or initiate adult preventive services that clinicians and care systems *must* assess the need for and recommend to each patient. These have the highest priority value. (*Annotation Table, Level I Services; Aim #1*)
 - Alcohol abuse; hazardous and harmful drinking screening and brief counseling
 - Aspirin chemoprophylaxis counseling
 - Breast cancer screening
 - Cervical cancer screening
 - Chlamydia screening
 - Colorectal cancer screening
 - Hypertension screening
 - Influenza immunization
 - Lipid screening
 - Pneumococcal immunization
 - Tobacco use screening and brief intervention
- Provide timely feedback, appropriate interventions and optimal follow-up.

Preventive Services for Adults Annotations

Preventive Services That Clinicians and Care Systems *Must* Assess the Need for and Recommend to Each Patient. These Have the Highest Priority Value (Level I)

Level I preventive services are worthy of attention at every opportunity. Busy clinicians cannot deliver this many services in any single encounter. However, with systems in place to track whether or not patients are up-to-date with the high-priority preventive services for their age group, clinicians can recommend the high-priority services as opportunities present.

Table 1. Level I Services by Age

Service	19-39 Years	40-64 Years	65 Years and Older
Alcohol abuse; hazardous and harmful drinking screening and brief counseling	Identify those with risky or hazardous drinking, as well as those who have carried that behavior to the point of meeting criteria for dependence, and then provide brief intervention.		
Aspirin chemoprophylaxis counseling		Encourage for men age 45-79 years when the potential benefit of a reduction in myocardial infarctions outweighs the potential harm of an increase in gastrointestinal hemorrhage. Encourage for women age 55-79 years when the potential benefit of a reduction in ischemic strokes outweighs the potential harm of an increase in gastrointestinal hemorrhage.	
Breast cancer screening		Mammogram every 1 to 2 years for women age 50-75 years. (See <i>Annotation #3</i> for evidence and recommendations for other ages.)	
Cervical cancer screening	No screening before age 21 regardless of age of onset of sexual activity. Screening every 3 years between ages 21-65.		Stop screening at ages 65-70 if adequate screening was carried out in the preceding 10 years.
Chlamydia screening	All sexually active women aged 25 years and younger.		
Colorectal cancer screening		Age 50 years and older or age 45 years and older for African Americans and American Indians/Alaska Natives. No screening recommended for ages 76-85 unless there are significant considerations that support screening in an individual patient. No screening recommended for ages 86 or older.	
Hypertension screening	Blood pressure every 2 years if less than 120/80; every year if 120-139/80-89 mm Hg.		
Influenza immunization	Annually during entire flu season for all individuals.		
Lipid screening	Fasting fractionated lipid screening for men over age 34 every 5 years.	Fasting fractionated lipid screening for men over age 34 and women over age 44 every 5 years.	
Pneumococcal immunization	Immunize high-risk groups once. Reimmunize those at risk of losing immunity once after 5 years.	Immunize at age 65 if not done previously. Reimmunize once if first received more than 5 years ago and before age 65, or an immunocompromising condition is present.	

Tobacco use screening and brief intervention	Establish tobacco use status for all patients and reassess at every opportunity. Provide brief intervention.
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1. Alcohol Abuse; Hazardous and Harmful Drinking Screening and Brief Counseling (Level I)

Recommendation:

- Clinicians and health care systems must consistently try to identify adults, particularly young adults and pregnant women, with hazardous or harmful drinking patterns, and provide appropriate counseling. Hazardous and harmful drinking patterns are:
 - More than seven drinks per week or more than three drinks at any one time, for women and healthy men over 65 years
 - More than 14 drinks per week or more than four drinks at any one time for healthy men less than 65 years

A standard drink is defined as 12 oz. of beer, 1 glass of wine, or 1 oz. of spirits in a mixed drink.

[Moderate Quality Evidence; Strong Recommendation]

Evidence for Effectiveness

Clinical considerations: The U.S. Preventive Services Task Force (USPSTF) found moderate quality evidence that hazardous and harmful drinking, unlike alcohol dependence or abuse, is often amenable to brief, office-based interventions *[Moderate Quality Evidence]*.

Screening and providing brief interventions for problem drinking is among the most effective preventive services in primary care, and, like tobacco cessation counseling, is among the very few that are actually cost-saving from a societal perspective *[Systematic Review]*.

Most studies of the effectiveness of problem drinking screening and intervention did not include any specific structured follow-up, and yet they still demonstrated a benefit. Follow-up has been shown to add value to smoking cessation support, and it would be reasonable to assume that it would be useful with problem drinking, as well.

Hazardous and harmful drinking can be detected with a validated screening instrument such as the Alcohol Use Disorders Identification Test (AUDIT) or AUDIT C *[Moderate Quality Evidence]*. Other screening instruments, especially the four-question CAGE-AID *[Low Quality Evidence]*, are primarily designed to identify patients with dependence or abuse, and do not include questions about the quantity or frequency *[Low Quality Evidence]*.

In the original guideline document, see Appendix C, "Alcohol Use Disorders Identification Test (AUDIT) Structured Interview," and see the Implementation Tools and Resources Table for "Substance Abuse and Mental Health Services Administration" for the CAGE-AID and other screening tools.

Counseling Messages for Healthy Lifestyles

Brief counseling should follow the 5A model (a variation on tobacco intervention guideline):

- Assess current and historical use of alcohol.
- Advise patients to reduce use to moderate levels and avoid binge drinking.
- Agree on individual goals for reduction or abstinence.
- Assist with motivation, skills, and supports.
- Arrange follow-up support and repeated counseling, including referral if needed.

2. Aspirin Chemoprophylaxis Counseling (Level I)

Recommendation:

- Clinicians and health care systems must consistently assess cardiovascular risk in men ages 45 to 79 and stroke risk in women ages 55 to 79, and recommend aspirin prophylaxis for those individuals in whom the potential benefits outweigh the potential harms *[Strong Recommendation]*.

Clinicians should not encourage aspirin chemoprophylaxis in men under 45 years or women under 55 years.

Evidence for Effectiveness

Clinical considerations: USPSTF recommends a risk assessment and discussion of aspirin (acetylsalicylic acid; ASA) therapy for primary prevention of myocardial infarction in men at risk of coronary heart disease (CHD) and ischemic stroke in women *[Systematic Review]*.

The 10-year risk of cardiovascular disease levels at which the USPSTF has determined that the benefit of ASA use (to reduce the risk of myocardial infarction [MI] in men and stroke in women) outweighs harms (refer to 10-year CHD and 10-year stroke risk tables below).

Based on the recommendations of the USPSTF findings last updated in 2009, aspirin chemoprophylaxis must be encouraged for men ages 45 to 79 years when the potential benefit of a reduction in myocardial infarctions outweighs the potential harm of an increase in serious bleeding events (gastrointestinal hemorrhage and hemorrhagic stroke). For women ages 55 to 79 years, aspirin chemoprophylaxis must be encouraged when the potential benefit of a reduction in ischemic strokes outweighs the potential harm of

an increase in serious bleeding events.

Although the USPSTF found there is fair evidence that higher doses of aspirin and non-steroidal anti-inflammatory drugs (NSAIDs) used over longer periods of time may reduce the incidence of colorectal cancer, the task force concludes the harms outweigh the benefits and recommends against routine use of aspirin and NSAIDs for the primary prevention of colorectal cancer in average-risk individuals [*Systematic Review*].

Estimates of the magnitude of benefits and harms of aspirin therapy vary with an individual's risk for CHD and stroke. The probability of a prevented myocardial infarction exceeds the risk of gastrointestinal bleeding and hemorrhagic stroke risk for men with the following age and 10-year CHD risk:

Age	10-Year CHD Risk
45-59	≥4%
60-69	≥9%
70-79	≥12%

The probability of a prevented ischemic stroke exceeds the risk of gastrointestinal bleeding and hemorrhagic stroke risk for women with the following age and 10-year stroke risk:

Age	10-Year Stroke Risk
55-59	≥3%
60-69	≥8%
70-79	≥11%

Since the last USPSTF aspirin use recommendation published in 2009, there has been new commentary [*Low Quality Evidence*] and a new meta-analysis [*Meta-analysis*] that have questioned the use of aspirin for primary prevention for cardiovascular disease, particularly in individuals at lower risk of cardiovascular disease. At this time, ICSI is awaiting the rigor of the next USPSTF recommendation in 2014 before changing their recommendation as stated here.

10-year cardiovascular disease risk tools are available at:

Medical College of Wisconsin: <http://www.mcw.edu/calculators/CoronaryHeartDiseaseRisk.htm>.

Western States Stroke Consortium: <http://www.westernstroke.org/PersonalStrokeRisk1.xls>.

Risk calculators are readily available to providers in various online and hand-held device apps including Epocrates and up-to-date.

Counseling Messages for Effective Shared Decision-making: The USPSTF encourages shared decision-making about daily low-dose aspirin use with men and women whose 10-year CHD and stroke risk, respectively is closely balanced to their risk of serious bleeding. As the 10-year cardiovascular risk increases compared to the risk of injury from aspirin use the recommendation to take aspirin should become stronger [*Systematic Review*].

Counseling Messages for Healthy Lifestyles/Safety: Please see the NGC summary of the ICSI guideline [Diagnosis and management of type 2 diabetes mellitus in adults](#) for more information on aspirin use in diabetic patients.

3. Breast Cancer Screening (Level I)

Recommendations:

- Screening mammogram must be recommended every 1 to 2 years for women ages 50 to 75 years [*Strong Recommendation, Moderate Quality Evidence*].
- Screening mammograms could be recommended to women ages 40 to 49 and over the age of 75 [*Weak Recommendation, Moderate Quality Evidence*].

All women over age 40 should routinely be given the opportunity to receive information about breast cancer screening and informed decision-making. Therefore, breast cancer screening decisions, especially among women ages 40 to 49 and over age 75, must be informed by a process of shared decision-making among patients, medical groups and individual clinicians.

Evidence for Effectiveness

Clinical considerations: Screening mammography is the best tool currently available for the early detection of breast cancer and has been shown to decrease breast cancer mortality.

In 2002, the USPSTF found "fair evidence that mammography screening every 12 to 33 months significantly reduces mortality from breast cancer." They recommended screening mammography every 1 to 2 years for all women greater than 40 years of age, although they noted that there was minimal benefit for low-risk women in the 40- to 49-year age group, and insufficient evidence of benefit for women older than age 75.

In 2009, the USPSTF, based on a review of prior evidence and on new evidence, made specific age-based recommendations for screening mammography:

The decision to begin screening between ages 40 and 49 should be individualized and requires shared decision-making, taking "patient context into account, including the patient's values regarding specific benefits and harms."

For women ages 50 to 74 years, biennial screening is recommended, as the "benefit of screening mammography is maintained by biennial screening" but "may be reduced when extending the interval beyond 24 months."

For women over age 75, the USPSTF concluded that the "current evidence is insufficient to assess the additional benefits and harms of screening mammography" [*Low Quality Evidence*], [*Systematic Review*].

Shared Decision-Making and Implementation

Counseling messages for effective shared decision-making: All women over age 40 should routinely be given the opportunity to receive information about breast cancer screening and informed decision-making. The decision regarding age of initiation and frequency of screening should be made after helping women understand potential benefits, harms and limitations of mammography. This decision should also take into account the patient's age, risk stratification (<http://www.cancer.gov/bcrisktool>), personal values, concerns and individual circumstances [*Low Quality Evidence*], [*Systematic Review*].

Various patient decision aids are available and can be useful tools; for example, this Web site provides an interactive screening mammography decision aid created by the University of Sydney: <http://www.mammogram.med.usyd.edu.au/>.

See also "Clinical Breast Exam Screening (Level III) in the original guideline document."

Related Guideline

See the NGC summary of the ICSI guideline [Diagnosis of breast disease](#).

4. Cervical Cancer Screening (Level I)

Recommendations:

- Screening must not be recommended for women before the age of 21 regardless of age of onset of sexual activity.
- Women age 21 to 65 must be screened by Pap tests every three years. In women older than 30, the interval can be extended to five years by co-testing with a combination of Pap smear and human papillomavirus (HPV) testing. Screening should usually be stopped at age 65 if adequate screening was carried out in the preceding 10 years.
- Annual Pap test screening must still be recommended to women known to have a higher risk for cervical cancer. This would include women who have had previous cervical dysplasia (cervical intraepithelial neoplasia [CIN] 2 or 3), were exposed in utero to diethylstilbestrol, or are immunocompromised (e.g., human immunodeficiency virus [HIV] positive).
- Screening is not recommended for women who have had a total hysterectomy (with complete removal of the cervix) for benign disease, and who do not have a history of CIN 2 or 3.
- Routine HPV screening is not recommended for women under the age of 30.

(U.S. Preventive Services Task Force [USPSTF], 2012 [*Systematic Review*]; *Strong Recommendations, High Quality Evidence*)

Evidence for Effectiveness

Clinical considerations: Pap smear screening programs have been shown to be very effective in detecting and preventing cervical cancer. This screening can be performed with either conventional Pap smears or liquid-based cytology; both have been shown to be equivalent in testing [*Moderate Quality Evidence*].

Screening with both Pap tests and HPV testing is the most sensitive and specific testing, but due to the low incidence of cervical cancer in the U.S., there is no benefit in doing both [*High Quality Evidence*], [*Low Quality Evidence*]. The addition of HPV testing does increase the likelihood of positive screening results, which in turn increases the likelihood of prolonged surveillance and over treatment. This is especially true in women under the age of 30, where HPV infection is typically transitory and self-resolving. Therefore, HPV testing in this young age group should be used only to triage management of atypical squamous cells of undetermined significance (ASCUS) on cytology.

There are no studies that support or deny the benefit of the bimanual pelvic exam screening for an asymptomatic female for any condition of the female genital tract [*Low Quality Evidence*].

Several studies have shown that HPV screening is more sensitive than Pap tests for detection of CIN-2/3+ (significant disease) but that it is less specific [*High Quality Evidence*]. New studies are looking at screening with HPV testing with a reflex to cytology (Pap) if positive, with colposcopy only for cytology of low-grade squamous intraepithelial lesion (LSIL) or greater. This modality shows promise for the future as more studies are done [*High Quality Evidence*], [*Low Quality Evidence*].

5. Chlamydia Screening (Level I)

Recommendations:

- Chlamydia screening must be recommended to all sexually active women aged 25 years and younger (Meyers, Halvorson, & Luckhaupt, 2007 [*Systematic Review*]; Johnson et al., 2002 [*Low Quality Evidence*]; *Strong Recommendation*).
- Screening using a first voided urine sample is as effective as obtaining an endocervical swab. There is no evidence that a bimanual pelvic examination aids in the detection of chlamydial infection.

Evidence for Effectiveness

Clinical considerations: Chlamydia is the most common bacterial sexually transmitted infection (STI) in the United States. An estimated three million new cases occur annually, with the majority being asymptomatic when initially infected.

Risk factors include:

- Having new or multiple sex partners
- Having prior history of an STI
- Not using condoms consistently and correctly

If left untreated, chlamydia infections can lead to serious complications, including pelvic inflammatory disease (PID), infertility and increased risk of HIV infection. It has been shown that having a process to identify, test and treat women at risk for cervical chlamydia infections is associated with a decreased incidence of pelvic inflammatory disease [*High Quality Evidence*].

The sensitivity of available screening tests for chlamydia infection is 80% and higher [*Systematic Review*]. The USPSTF does not recommend a specific screening test as studies have generally been performed in ideal circumstances in small populations with high prevalence rates. However, they concluded that nucleic acid amplification tests had higher sensitivities and specificities than older antigen detection tests and better sensitivities than culture [*Systematic Review*]. Following detection, treatment with antibiotics approaches 100% efficacy. Two randomized studies have observed a decrease in pelvic inflammatory disease following chlamydia screening [*Low Quality Evidence*], [*High Quality Evidence*].

6. Colorectal Cancer Screening (Level I)**Recommendation:**

- Colorectal cancer screening must be recommended in average-risk patients 50 years of age, or 45 years of age and older for African Americans and American Indians/Alaska Natives (Whitlock et al. 2008 [*Strong Recommendation; High Quality Evidence*]).

Shared Decision-making and Implementation

The decision to stop screening should be influenced by comorbidities, patient preferences and expected life span (at least 8 to 10 years to warrant continued screening). The USPSTF recommends not screening ages 76 to 85 unless there are significant considerations that support colorectal screening in an individual patient. The USPSTF recommends against screening ages 86 or greater.

Criteria for determining whether a patient is average-risk:

- 50 years old or if African American or American Indian/Alaska Native, 45 years old [*Low Quality Evidence*]
- No personal history of polyps and/or colorectal cancer
- No personal history of inflammatory bowel disease [*High Quality Evidence*]
- No family history of colorectal cancer in:
 - One first-order relative diagnosed before age 60, or
 - Two first-order relatives diagnosed at any age [*Low Quality Evidence*]
- No family history of adenomatous polyps in:
 - One first-order relative diagnosed before age 60

Use one of the following methods for colorectal cancer screening, based on shared decision-making by the patient and family:

- Stool testing
 - Guaiac-based fecal occult blood testing annually
 - Fecal immunochemical testing annually
- 60 cm flexible sigmoidoscopy every five years with or without stool test for occult blood annually
- Computed tomography (CT) colonography every five years
- Colonoscopy every ten years

The NGC summary of the ICSI guideline [Colorectal cancer screening](#) summarizes the evidence for the effectiveness of the various screening tests commonly used for colorectal cancer screening.

7. Hypertension Screening (Level I)**Recommendation:**

- To detect and monitor hypertension, blood pressure must be measured at least every two years for adults with blood pressure less than 120/80 and every year if blood pressure is 120-139/80-89 mm Hg. Higher blood pressures should be confirmed and managed per protocol. As a practical matter, this standard may be most reliably implemented if blood pressure is measured at every patient visit (Chobanian et al., 2003 [*Guideline*]; [*Strong Recommendation*]).

Evidence for Effectiveness

See the original guideline document for information on each of the following topics:

- Periodic screening in adults at patient visits
- Standardized blood pressure measurement
- Blood pressure screening classification
- Confirming elevation/education and risk factor assessment
- Counseling messages (If blood pressure is greater than 120/80, it needs to be confirmed and evaluated in the context of the patient's risk factors.)

Related Guideline

See the NGC summary of the ICSI guideline [Hypertension diagnosis and treatment](#).

8. Influenza Immunization (Level I)

Recommendation:

- Immunization must be recommended annually during flu season for all individuals [*Strong Recommendation*].

Related Guideline

See the NGC summary of the ICSI guideline [Immunizations](#).

9. Lipid Screening (Level I)

Recommendation:

- A fasting cholesterol fractionation (total cholesterol, calculated low-density lipoprotein [LDL] cholesterol, high-density lipoprotein [HDL] cholesterol and triglyceride) must be recommended for men over age 34 and women over age 44 every five years [*Strong Recommendation*].

If patient is not fasting and probability of a return visit is low, consider checking total cholesterol and HDL cholesterol. If available, also consider measuring direct LDL cholesterol.

Based on risk assessment, patients and clinicians should discuss the issues surrounding lipid screening with men between the ages of 20 and 34 years and women between the ages of 20 and 44 years. A specific example would be the need to screen those men ages 20 to 34 years and women ages 20 to 44 years with first-degree relatives with total cholesterol greater than 300 or history of premature CHD.

Individuals with total cholesterol less than 200, LDL less than 130, triglyceride less than 200, and HDL of 40 or above have a desirable cholesterol level and should be advised to repeat cholesterol fractionation in five years.

Individuals with total cholesterol greater than or equal to 200, LDL greater than or equal to 130, triglyceride greater than or equal to 200, and HDL less than 40 may be at higher risk of vascular disease, and these patients should follow treatment recommendations as outlined in the NGC summary of the ICSI guideline [Lipid management in adults](#).

Patients whose screening recommendations would be different include those who:

- Have histories of CHD, cerebrovascular disease (CVD), peripheral vascular disease (PVD), diabetes mellitus (DM), metabolic syndrome, or who are being case managed for dyslipidemia. Their disease management will involve a more aggressive approach to lipid monitoring.
- Have health status or life expectancy that would not be affected by knowledge of their lipid status (e.g., those with comorbid conditions such as terminal cancer).
- Are in circumstances where cholesterol levels may not represent their usual levels. These situations include acute illness, hospitalization, unintended weight loss, pregnancy, or lactation within the previous three months. Screening should be delayed under these circumstances.

Lipid testing is recommended because elevated LDL, elevated triglycerides, and low HDL are important risk factors for CHD. Treatment of these risk factors is readily available and significantly decreases the risk for CHD.

Evidence for Effectiveness

Clinical considerations: There is good evidence that lipid measurements can identify in men greater than age 34 years and women greater than age 44 years individuals at increased risk of CHD and good evidence that treatment substantially reduces the incidence of CHD [*High Quality Evidence*], [*Guideline*], [*Low Quality Evidence*], [*Meta-analysis*], [*Moderate Quality Evidence*].

No clinical trials address the treatment of dyslipidemia among men ages 20-34 years and among women ages 20-44 years. Screening should be individualized for patients in these age groups.

Fractionated cholesterol is the most effective screening test for dyslipidemia because elevated LDL and triglycerides and low HDL are risk factors for vascular disease [*Guideline*].

Some patients should not be offered lipid screening as outlined in this guideline. It is well recognized that cholesterol interpretation depends on the presence of other risk factors for large vessel disease. Patients with DM are at high risk for large vessel disease and for that reason should undergo aggressive lipid management. Patients with coronary artery disease (CAD), PVD, and/or CVD should

also be aggressively managed for dyslipidemia [*Low Quality Evidence*].

Related Guideline

See the NGC summary of the ICSI guideline [Lipid management in adults](#).

10. Pneumococcal Immunization (Level I)

Recommendations:

- Immunize at age 65 if not done previously.
- Reimmunize once if first received was greater than five years ago and before age 65 or an immunocompromising condition is present.
- Reimmunize those at risk of losing immunity once after five years.
- Immunize high-risk groups once.

[*Strong Recommendation*]

Related Guideline

See the NGC summary of the ICSI guideline [Immunizations](#).

11. Tobacco Use Screening and Brief Intervention (Level I)

Recommendation:

- Clinicians must establish tobacco use status for all patients and reassess at every opportunity. All forms of tobacco should be included. Provide ongoing cessation services to all tobacco users at every opportunity (USPSTF, 2009 [*Systematic Review*]; Fiore & Jaén, 2008 [*Low Quality Evidence*]; *Strong Recommendation*).

Reinforce non-users to continue non-use of tobacco products.

Recommend tobacco cessation services on a regular basis to all patients who use tobacco. (All forms of tobacco should be considered.)

Establish secondhand smoke exposure status for all patients. Advise all patients exposed to secondhand smoke that exposure is harmful. Encourage a smoke-free living and working environment for patients, and assist the exposed patient to communicate with other household members about decreasing smoke in their house. Encourage the patient to support smoking cessation efforts among other household members who use tobacco [*Low Quality Evidence*].

Evidence for Effectiveness

Clinical considerations: Tobacco use is the single most preventable cause of death and disease in our society. There is good evidence that clinical-based interventions are effective. There is good evidence that tobacco cessation interventions are best carried out when the entire clinical staff is organized to provide these services [*Systematic Review*], [*Low Quality Evidence*].

Structured clinician clinical-based smoking cessation counseling is more effective than usual care in reducing smoking rates [*High Quality Evidence*]. The addition of telephone-based counseling may result in further improvements in cessation [*High Quality Evidence*]. The success of this approach in the adult population has led to the adoption of the same approach in the pediatric population. Numerous effective pharmacotherapies for smoking cessation now exist. Except in the presence of contraindications, these should be used with all patients attempting to quit smoking.

While readiness-stage intervention is commonly used, evidence does not strongly support it [*Systematic Review*].

Two treatment elements are effective for tobacco cessation intervention: social support for cessation and skills training/problem-solving. The more intense the treatment, the more effective it is in achieving long-term abstinence from tobacco.

Shared Decision-making and Implementation

Counseling Messages for Effective Shared Decision-making:

The key components of successful tobacco cessation interventions are:

- Ask about tobacco use and smoke exposure at every opportunity.
- Advise all users to quit.
- Assess willingness to make a quit effort.
- Provide a motivational intervention if the user is not ready to make a quit effort [*Low Quality Evidence*]. See the NGC summary of the ICSI guideline [Healthy lifestyles](#) for more information.
- Assist users who are willing to make a quit attempt.
- Arrange follow-up.

For all ages:

- If accompanying household member uses tobacco, encourage member to quit. If the member user is interested in quitting, encourage a visit at his or her clinic for more cessation assistance.

- Provide educational and self-help materials.

See the original guideline document for information about Call it Quits Referral Program.

Related Guidelines

See the NGC summary of the ICSI guideline [Healthy lifestyles](#).

Preventive Services That Clinicians and Care Systems *Should Assess the Need for and Recommend to Each Patient. These Have Value But Less Than Those in Level I (Level II)*

Level II services have been shown to be effective and should be provided whenever possible. If systems/care management teams are successful in keeping patients on time with high-priority services during illness and disease management visits, preventive services in the second group can be delivered at any opportunity once Level I services are complete.

Table 2. Level II Services by Age

Service	19-39 Years	40-64 Years	65 Years and Older
Abdominal aortic aneurysm screening			Men ages 65 to 75 who have ever smoked
Depression screening	Routine screening if there are systems in place to ensure accurate diagnosis, effective treatment, and careful follow-up.		
Folic acid chemoprophylaxis counseling	Counsel women of reproductive age to consume 400 to 800 micrograms of folic acid per day from food sources or supplements.		
Hearing screening		Hearing screening followed by counseling on the availability of hearing aid devices and making referrals as appropriate for older adults.	
Hepatitis B immunization	Universal routine immunization for young adults less than 40 years of age.		
Hepatitis C virus infection screening	Screening recommended to adults at high risk. One-time screening for adults born between 1945 and 1965 without known risk factors.		
Herpes zoster/shingles immunization		Immunize at age 60 and older in patients who have no contraindications.	
Human immunodeficiency virus (HIV) screening	Screen persons age 15-64 using repeatedly reacting enzyme immunoassay (EIA).		
Human papillomavirus (HPV) immunization	Recommended for all 11- to 12-year-old females and catch-up for females age 12-26. Routine vaccination of males ages 11-12 years with three doses of HPV4. The vaccination series can be started beginning at age 9. Males ages 13 to 21 years who had not already received the HPV4 vaccine should also be vaccinated. Males ages 22 through 26 years of age may be vaccinated.		
Intimate partner violence screening	Counsel or refer women of childbearing age who are victims of intimate partner violence.		
Inactivated polio vaccine (IPV) immunization	Vaccination should occur for adults not previously immunized against polio.		
Measles, mumps, rubella (MMR) immunization	Persons born during or after 1957 should have one dose of measles vaccine; a second dose may be required in special circumstances.		
Obesity screening	Record height, weight and calculate body mass index at least annually. For patients with normal or overweight body mass index (BMI) scores, consider waist circumference measurement to estimate disease risk. Consider BMI and its associated mortality risks across different ethnicity, sex and age groups.		
Osteoporosis screening	Women younger than age 65, who are post menopausal and determined to have a significantly increased fracture risk should be screened.		Women age 65 and older should be screened for osteoporosis.
Tetanus-diphtheria (Td/Tdap) immunization	Administer a one-time dose of Tdap to adults who have not received Tdap previously or for whom vaccine status is unknown.		

Varicella immunization	For all adults without evidence of immunity, a dose of varicella vaccine should be given followed by a second dose at an interval of at least 28 days. A catch-up second dose of varicella vaccine should be given to all children, adolescents, and adults who received only one dose previously.	
Vision screening		Objective vision testing for adults age 65 and older.

12. Abdominal Aortic Aneurysm Screening (Level II)

Recommendations:

- For *men* ages 65 to 75 who have *ever* smoked (100 cigarettes in one's lifetime is the validated research definition of "ever smoked"), a one-time screening ultrasonogram for abdominal aortic aneurysm should be recommended [*Strong Recommendation*].
- For *men* ages 65 to 75 who have *never* smoked, there are no recommendations for or against a one-time screening ultrasonogram for abdominal aortic aneurysm.
- For *women*, regardless of age or smoking status, screening ultrasonography for abdominal aortic aneurysm *is not recommended*.

(Fleming et al., 2005 [*Systematic Review*])

Refer to the original guideline document for information on evidence of effectiveness of abdominal aortic aneurysm screening.

13. Depression Screening (Level II)

Recommendation:

- Routine depression screening should be recommended for adult patients (including older adults) but only if the practice has staff-assisted "systems in place to ensure that positive results are followed by accurate diagnosis, effective treatment, and careful follow-up." The optimum interval for rescreening is unknown [*Strong Recommendation*] (O'Connor et al., 2009 [*Systematic Review*]).

Evidence for Effectiveness

Clinical considerations: When combined with systematic management, screening can be very effective. There is now considerable evidence from many randomized trials [*Systematic Review*] that it is possible to improve treatment (both medications and psychotherapy) in primary care settings for patients with depression, but these trials have all implemented systematic ways to:

- Provide care management with close follow-up by a team working with the primary care clinician
- Enhance planned collaboration with mental health clinicians
- Provide education and self-management support

Benefits from screening are unlikely to be realized unless such systems are functioning well. There is no evidence about potential harms of screening except that there may be a short-term increase in suicidal behavior in those ages 18 to 29 years who received antidepressants, especially paroxetine.

There are many instruments that have been well tested and validated for screening, ranging from two questions to the Patient Health Questionnaire (PHQ)-9, a nine-question survey that is being increasingly used in primary care settings to estimate severity and provide monitoring over time, as well as for initial screening [*Low Quality Evidence*]. See the NGC summary of the ICSI guideline [Adult depression in primary care](#) and the "Implementation Tools and Resources Table" section of the original guideline document for example instruments and recommendations about management.

Shared Decision-making and Implementation

Counseling Messages for Effective Shared Decision-making:

There is no evidence that simple brief messages have any effect.

Related Guideline

See the NGC summary of the ICSI guideline [Adult depression in primary care](#).

14. Folic Acid Chemoprophylaxis Counseling (Level II)

Recommendation:

- Clinicians should offer to counsel women of reproductive age to consume 400 to 800 micrograms of folic acid per day from food sources and/or supplements (Wolff, 2009 [*Low Quality Evidence*]).

Evidence for Effectiveness

Clinical considerations: Neural tube defects (NTDs) are common birth defects that affect approximately 3,000 pregnancies each year [*Low Quality Evidence*]. The occurrence of NTDs is reduced by 50% to 70% with the daily periconceptional consumption of 400 to 800 micrograms of folic acid [*Guideline*]. Not all women receive adequate levels of folic acid in their diets and the 2005 March of Dimes Gallup survey indicated the number taking daily supplements is declining. When asked what would motivate them to take a supplement, the most common reported needs were being sick or a clinician's recommendation [*Low Quality Evidence*].

Shared Decision-making and Implementation*Counseling Messages:*

- Eat folic acid-rich foods and fortified foods such as dark green leafy vegetables; dried beans and peas; whole grain, fortified enriched grain products and breakfast cereals; and citrus fruits and berries.
- Take a vitamin supplement containing folic acid.

Related Guideline

See the NGC summary of the ICSI guideline [Routine prenatal care](#).

15. Hearing Screening (Level II)**Recommendation:**

- Hearing screening followed by counseling on the availability of hearing aid devices and making referrals as appropriate should be recommended for older adults. Patients should initially be asked if they have hearing loss. Patients who provide a yes response should be referred for formal audiometric testing. If the reply is no, they should be further screened with the whispered-voice test or handheld audio scope. The work group concurs with the USPSTF conclusion that there is insufficient data to recommend a specific screening frequency. Limited data on progression of hearing loss suggests that screening once every 2 to 10 years is reasonable.

Evidence for Effectiveness

Clinical considerations: No studies have directly demonstrated a relationship between hearing screening and improved hearing function, hearing-related quality of life, or activities of daily living. Inadequately corrected hearing can become a barrier to care, however. Hearing screening has been recommended for elderly adults by the USPSTF based upon separate evidence of high prevalence of hearing impairment, the accuracy and inexpensiveness of simple screening questionnaires, the effectiveness of hearing aids, and the willingness of 40%-60% of individuals to follow through with additional screening and purchase of hearing aids. Single question screening is nearly as effective as the whisper-voice test or the handheld audiometric device [*Systematic Review*], [*Meta-analysis*]. The prevalence of uncorrected hearing loss in the elderly is approximately 25% [*Low Quality Evidence*], [*High Quality Evidence*].

Evidence is not clear on a specific age cutoff, particularly for undetected hearing loss.

16. Hepatitis B Immunization (Level II)**Recommendation:**

- Hepatitis B universal routine vaccination should be recommended for adults under 40 years of age. Please pay special attention with regard to schedule and dosing as it varies by risk and age [*Strong Recommendation*].

Related Guideline

See the NGC summary of the ICSI guideline [Immunizations](#).

17. Hepatitis C Virus (HCV) Infection Screening (Level II)**Recommendation:**

- HCV infection screening should be recommended to adults at high risk (intravenous or intranasal use of illicit drugs, blood transfusions prior to 1992, chronic hemodialysis, incarceration, unregulated tattoo, HCV-infected mother). The frequency of screening is uncertain [*Strong Recommendation*].

One-time HCV infection screening should be offered to adults without known risk factors if they were born between 1945 and 1965 [*Strong Recommendation*].

Positive HCV antibody tests must be followed-up with polymerase chain reaction (PCR) testing for viremia, as the HCV antibody test alone does not distinguish between prior HCV exposure and chronic HCV infection.

Evidence for Effectiveness

Clinical considerations: HCV is the most common chronic blood-borne pathogen in the United States and is the leading cause of complications from chronic liver disease. The prevalence of the antiHCV antibody in the U.S. is approximately 1.6%. HCV-related end-stage liver disease is currently the most common indication for liver transplantation among U.S. adults [*Systematic Review*].

AntiHCV antibody testing with confirmatory polymerase chain reaction testing accurately detects chronic HCV infection [*Systematic Review*].

There is no direct evidence of the benefit of screening for HCV infection in asymptomatic adults in reducing mortality or morbidity. There are no randomized trials or observational studies comparing clinical outcomes between individuals screened and not screened for HCV infection [*Systematic Review*].

There is adequate evidence that antiviral regimens result in a sustained viral response (SVR), defined as a decrease in HCV ribonucleic acid (RNA) to undetectable levels 24 weeks after antiviral treatment. SVR is associated with a reduction in the long-term clinical outcome of all-cause mortality. In the absence of direct evidence on long-term clinical outcomes of treatment, SVR is an intermediate outcome used to assess treatment efficacy in clinical trials and is the basis for U.S. Food and Drug Administration (FDA) drug approval [*Systematic Review*].

Shared Decision-making and Implementation

Counseling messages for effective shared decision-making: Patients should be informed that infection with HCV is a chronic condition that can result in chronic liver disease and cirrhosis. They should be informed that treatment is available for hepatitis C infection that can reduce the amount of virus in the blood and may reduce the risk of chronic liver disease.

Patients should also be informed that identification of hepatitis C infection may result in behaviors that will reduce the risk that they will transmit the virus to others.

Patients should be informed that identification of hepatitis C infection will result in additional evaluation to determine whether treatment is necessary and will require continued periodic monitoring. This may result in anxiety, as well as feelings of isolation.

Counseling messages for safety: Patients should be informed that infection with HCV is primarily acquired through percutaneous exposures to infected blood, such as injection drug use. Transfusions before 1992 and high-risk sexual behaviors are also associated with increased risk [*Systematic Review*].

18. Herpes Zoster/Shingles Immunization (Level II)

Recommendation:

- Zoster vaccine should be recommended to all persons age 60 years and older who have no contraindications, including persons who report a previous episode of zoster or who have chronic medical conditions. The vaccine should be recommended at the patient's first clinical encounter with his or her health care clinician [*Strong Recommendation*].

Related Guideline

See the NGC summary of the ICSI guideline [Immunizations](#).

19. Human Immunodeficiency Virus (HIV) Screening (Level II)

Recommendations:

- HIV screening using repeatedly reacting enzyme immunoassay (EIA) should be recommended to all persons ages 15 to 64 [*Strong Recommendation*].
- There is insufficient evidence on which to recommend a specific screening interval: the USPSTF suggests that screening frequency be based on risk for sexually transmitted disease (USPSTF, 2013 [*Guideline*]). For details, see "Shared Decision-making and Implementation" below.

Evidence for Effectiveness

Clinical Considerations: No studies have directly observed whether screening for HIV provides health benefits in either average- or high-risk populations. However, HIV screening identifies infections earlier when CD4 counts are higher [*Low Quality Evidence*], and when antiretroviral therapy (ART) is started earlier (at higher CD4 counts >200), it is more effective at reducing transmission of HIV and reducing the risk of AIDS events and death [*Systematic Review*]. The evidence for reducing transmission is largely based on studies in resource-poor settings and therefore may have limited generalizability to the U.S. The evidence for both reducing transmission and reducing acquired immune deficiency syndrome (AIDS) events and deaths with early treatment is largely based on fair-quality observational studies. The consistency of results among the observational studies, combined with the results of three randomized control trials (one on reducing transmission and two on reducing AIDS and death risk with early treatment), increases confidence in their results [*Systematic Review*].

Shared Decision-making and Implementation

Frequency: One-time screening may be adequate for those not at increased risk for infection, while annual screening may be appropriate for those at highest risk of infections, less-frequent regular screening may be appropriate for others at increased risk.

Testing options: Rapid HIV testing is highly sensitive (>99%) and can significantly reduce the problem of patients not returning for test results. Positive results from either conventional testing or rapid testing require confirmation with Western blot or immunofluorescent assay.

20. Human Papillomavirus (HPV) Immunization (Level II)

Recommendation:

- Routine use of the human papillomavirus (HPV2 or HPV4) vaccine should be performed for all 11- to 12-year-old females and catch-up for females ages 12 through 26. Routine vaccination of males ages 11 to 12 years with three doses of HPV4. The vaccination series can be started beginning at age 9. Males ages 13 to 21 years who had not already received the HPV4 vaccine

should also be vaccinated. Males ages 22 through 26 years of age may be vaccinated.

Evidence for Effectiveness

The Advisory Committee on Immunization Practices (ACIP) has recently recommended the routine vaccination of boys ages 11 or 12 with three doses of quadrivalent vaccine, HPV4 (Gardasil), to protect them against HPV. The vaccine received a permissive recommendation in 2009, but it was not part of the routine ACIP-recommended vaccines. On further review, it was felt that this new recommendation was justified due to increasing rates of anal cancer, and head and neck cancers, as well as the direct benefit of preventing genital warts in males. It is also postulated that the vaccine will reduce male-to-female transmission of HPV due to disappointing rates of female HPV vaccinations [Guideline].

Related Guideline

See the NGC summary of the ICSI guideline [Immunizations](#) for specific dosing schedule and intervals.

21. Intimate Partner Violence Screening (Level II) and Elderly and Vulnerable Adult Abuse Screening (Level III)

Recommendation:

- Clinicians and health care systems should consistently try to identify women of childbearing age who are victims of intimate partner violence (IPV) and must offer them appropriate counseling or referral for intervention [*Strong Recommendation*].

There is insufficient evidence to recommend screening elderly or vulnerable adults for abuse or to assess the balance of benefits and harms. Screening intervals are not determined.

Evidence for Effectiveness

"Intimate partner violence" describes physical, sexual or psychological harm by a current or former partner or spouse. This type of violence can occur among heterosexual or same-sex couples and does not require sexual intimacy.

"Elderly and vulnerable adult abuse" includes physical, sexual, emotional or psychological abuse or neglect, abandonment, financial or material exploitation, and self-neglect [*High Quality Evidence*].

Both intimate partner violence and elder and vulnerable adult abuse are common and often undetected. They are largely unaddressed public health problems that significantly contribute to many acute and chronic physical and mental health problems for individuals and families [*High Quality Evidence*].

There is adequate evidence that many tools can be used for screening for IPV. The highest levels of sensitivity and specificity for identifying IPV are Hurt, Insult, Threaten, Scream (HITS) (English and Spanish versions); Ongoing Abuse Screen/Ongoing Violence Assessment Tool (OAS/OVAT); Slapped, Threatened, and Throw (STaT); Humiliation, Afraid, Rape, Kick (HARK); Modified Childhood Trauma Questionnaire–Short Form (CTQ-SF); and Woman Abuse Screen Tool (WAST). The USPSTF determined that no valid, reliable screening tools to identify abuse of elderly or vulnerable adults in the primary care setting existed [*High Quality Evidence*].

Studies demonstrating the effectiveness of screening and intervention programs are generally of fair to good quality. A variety of interventions were shown to be effective including home visits, mentoring, counseling, and information cards containing resources and safety plan. Many studies involved narrow patient populations, family planning clinics or prenatal clinics, and uniquely designed intervention programs. But some programs used general outpatient clinics and referral to community resources or brief on-site service. Evidence from randomized trials supports a variety of interventions for women of childbearing age, including counseling, home visits, information cards, referrals to community services, and mentoring support [*High Quality Evidence*].

Shared Decision-making and Implementation

Counseling Messages for Effective Shared Decision-making:

- Discuss awareness of potential violence in dating and relationships, emphasizing the need to set boundaries and clearly communicate them to others.
- Discuss ways to stop potentially violent arguments.
- Discuss sexual orientation and associated potential risk of violence exposure.
- Discuss the fact that experiencing anger and conflict is normal.
- Discuss the fact that dealing with conflict violently is a learned behavior that has dire consequences.
- Violent behavior can also be unlearned. Reinforce nonviolent discipline and conflict resolution. Reinforce the fact that no person should fear violence or abuse in any relationship.
- Discuss safe storage of firearms when appropriate.
- Ask about weapons in the home and how they are stored.
- Suggest home-care services, caregiver support groups or respite care for those caring for the elderly.
- Provide care management with a method of follow-up.
- Provide education and self-management support.

22. Inactivated Polio Vaccine (IPV) Immunization (Level II)

Recommendation:

- Vaccination should be recommended for adults not previously immunized [*Strong Recommendation*].

Related Guideline

See the NGC summary of the ICSI guideline [Immunizations](#).

23. Measles, Mumps, Rubella (MMR) Immunization (Level II)**Recommendation:**

- Adults who are lacking documentation of vaccination or evidence of disease and who were born during or after 1957 should receive one dose of measles immunization. A second dose may be required in special circumstances [*Strong Recommendation*].

Related Guideline

See the NGC summary of the ICSI guideline [Immunizations](#).

24. Obesity Screening (Level II)**Recommendations:**

- Clinicians should calculate body mass index (BMI) for their patients on an annual basis for screening, and as needed for management. Classify BMI based on the National Institute of Health categories (see Table 3 in the original guideline document). Educate patients about their BMI and associated risks for them [*Strong Recommendation, High Quality Evidence*] (LeBlanc et al., 2011; McTigue et al., 2003).
- Clinicians should consider waist circumference measurement to estimate disease risk for patients who have normal or overweight BMI scores. Refer to Table 4 in the original guideline document for disease risk relative to weight and waist circumference [*Strong Recommendation, Moderate Quality Evidence*] (National Cholesterol Education Program, 2002; LeBlanc et al., 2011)
- Clinicians need to carefully consider BMI and its associated mortality risk across different ethnicity, sex and age groups [*Strong Recommendation, Moderate Quality Evidence*] (LeBlanc et al., 2011).

Evidence for Effectiveness

Clinical considerations: A BMI greater than or equal to 30 is defined as obese, and a BMI of 25-29 is defined as overweight. Clinicians should offer or refer patients with a BMI of 30 kg/m² or higher to intensive, multicomponent behavioral interventions [*Guideline*].

See the original guideline document for information about burden of suffering from obesity, and prevalence of obesity.

Shared Decision-making and Implementation

- Clinicians should use motivational interviewing techniques as a tool for encouraging behavior change [*Strong Recommendation, Moderate Quality Evidence*].
- Knowing the patient's readiness to change can help the clinician understand a patient's level of motivation and how to tailor communication about weight loss. Patients will need to set realistic, achievable goals and be held accountable to practice new behaviors that produce and maintain weight loss.

Counseling Messages for Effective Shared Decision-making:

- Begin a conversation by finding out if the patient wants to talk about weight.
- Ask questions to find out if the patient is ready to make changes.

*Counseling Messages for Healthy Lifestyles/Safety:*Healthy Eating

- Keep a record of what you eat for two weeks to notice what you are and are not eating.
- Eat five servings of fruits and vegetables a day.
- Pay attention to portion sizes. Use smaller plates if helpful. Drink water instead of sweetened beverages, such as soda, juice and coffee drinks.
- Decrease or stop eating at fast food restaurants.
- Share meals when eating at restaurants, or take home half of the entrée

Physical Activity

- Keep a record of physical activities for two weeks to see how active you are.
- Take the stairs whenever possible.
- Park at the back of the parking lot, or get off one bus stop earlier and walk.
- Aim to be active at least 30 minutes a day.
- Ask a friend to commit to doing some physical activity with you at least once a week.
- Purchase a pedometer and aim for walking 8,000 to 10,000 steps a day.

Recommendation: For adult patients with a BMI of 25 to 34.9 kg/m², sex-specific waist circumference cutoffs should be used in conjunction with BMI to identify increased disease risk.

Related Guidelines

See the NGC summaries of ICSI guidelines [Prevention and management of obesity for adults](#) and [Healthy lifestyles](#).

See also the "Implementation Tools and Resources Table" section in the original guideline document.

25. Osteoporosis Screening (Level II)

Recommendations:

- Osteoporosis screening with dual-energy x-ray absorptiometry (DXA) of the hip and lumbar spine (or with quantitative ultrasonography of the calcaneus) should be offered to women over 65 [*Strong Recommendation*] (USPSTF, 2011 [*Guideline*]).
- Clinicians and health care systems should assess fracture risk in postmenopausal women under 65; women with a significantly increased risk (>10% in the next 10 years) should also be offered osteoporosis screening [*Strong Recommendation*] (USPSTF, 2011 [*Guideline*]). Fracture risk can be estimated using validated clinical risk-assessment instruments such as the Fracture Risk Assessment Tool (FRAX) and others (Nelson et al., 2010 [*Systematic Review*]).
- The frequency of screening is uncertain, but there is emerging evidence that most women over 67 with normal or only mildly osteopenic bone density on DXA may reasonably wait 10-15 years before repeat testing [*Strong Recommendation*] (Gourlay et al., 2012 [*Moderate Quality Evidence*]; (Hillier et al., 2007 [*Low Quality Evidence*])).

For men, there is currently insufficient evidence to support a specific screening recommendation, as the benefits and harms of screening have not been determined [*Guideline*].

Evidence for Effectiveness

Clinical considerations: Testing intervals – for women whose initial screening test demonstrates adequate bone mass density (BMD), there is currently no recommendation regarding optimal interval to rescreen. But a recent study suggests a reasonable framework for considering follow-up testing intervals, although further research is needed to confirm these findings in larger and diverse populations. In this large prospective study (women \geq age 67; 99% white), the initial screening DXA scan results were placed in four groups (normal and three subgroups of osteopenia). The study results identified how long it took 10% of women in each group to progress to osteoporosis and suggested the following rescreening intervals (see table below) [*Moderate Quality Evidence*]. The ICSI guideline work group elected to suggest a more conservative range of 10 to 15 years while awaiting further validation of these findings.

Initial Screen DXA Result	Approximate Interval for Retesting
Normal BMD (T-score \geq -1 or higher)	15 years
Mild Osteopenia (T-score -1.01 to -1.49)	15 years
Moderate Osteopenia (T-score -1.50 to -1.99)	5 years
Advanced Osteopenia (T-score \leq -2.00 to -2.49)	1 year

If a woman's fracture risk assessment changes for reasons beyond aging, such as chronic use of glucocorticoids or occurrence of a fragility fracture, then sooner retesting would be a consideration [*Moderate Quality Evidence*].

Clinical Considerations:

This guideline addresses screening for women who have not had osteoporotic fractures, often called "fragility" or "low-impact" fractures. Women with a diagnosis of secondary osteoporosis or conditions strongly associated with this diagnosis (e.g., chronic glucocorticoid therapy) are excluded).

The USPSTF commissioned a systematic review of the evidence for osteoporosis screening. The comments below are largely derived from this review [*Systematic Review*].

1. There is convincing evidence that bone measurement tests predict short-term risk for osteoporotic fractures in women and men.
2. No controlled studies have evaluated the effect of screening for osteoporosis on fracture rates or fracture-related morbidity or mortality.
3. Adequate evidence indicates that clinical risk-assessment instruments (FRAX, Osteoporosis Self-Assessment Tool [OST] and others) have only modest predictive value for low bone density or fractures. Because of this only modest predictive value, the ICSI guideline chose to use a simpler rounded-off value of " \geq 10% 10-year fracture risk" rather than the USPSTF derived "9.3% 10-year fracture risk" for postmenopausal women < age 65. The USPSTF derived the 9.3% value from using the FRAX tool to determine the fracture risk of an average 65-year-old white woman without other risk factors.
4. Current diagnostic and treatment criteria for osteoporosis rely on DXA measurements only; criteria for quantitative ultrasonography have not been defined. For this reason, BMD by dual-energy x-ray absorptiometry of the hip and lumbar spine is generally considered the preferred test. Quantitative ultrasonography of the calcaneus is as effective as DXA in predicting fractures of the femoral neck, hip and spine and has some advantages – the absence of radiation exposure, portability and lower cost.

For further information on testing and treatment for osteoporosis, plus primary prevention of osteoporosis (diet, exercise, vitamin D and other issues), see the NGC summary of the ICSI guideline [Diagnosis and treatment of osteoporosis](#).

Related Guideline

See the NGC summary of the ICSI guideline [Diagnosis and treatment of osteoporosis](#).

26. Tetanus-Diphtheria Immunization (Td/Tdap) Immunization (Level II)

Recommendation:

- Administer a one-time dose of Tdap to adults who have not received Tdap previously or for whom vaccine status is unknown to replace one of the 10-year Td boosters in all age groups with close contact with children less than one year old. All pregnant women should receive Tdap during each pregnancy, irrespective of prior history of receiving Tdap [*Strong Recommendation*] (Centers for Disease Control and Prevention (CDC), 2013 [*Guideline*]).

Related Guideline

See the NGC summary of the ICSI guideline [Immunizations](#).

27. Varicella Immunization (Level II)

Recommendation:

- For adults without evidence of immunity, a dose of varicella vaccine should be given followed by a second dose at an interval of at least 28 days. A catch-up second dose of varicella vaccine should be given to all children, adolescents and adults who received only one dose previously [*Strong Recommendation*].

Related Guideline

See the NGC summary of the ICSI guideline [Immunizations](#).

28. Vision Screening (Level II)

Recommendation:

- Objective vision testing (Snellen chart) for asymptomatic patients should be recommended for adults age 65 and older. The work group concurs with the USPSTF conclusion that there is insufficient data to recommend a specific screening frequency. Limited data on progression of vision loss suggests that screening once every 2 to 10 years is reasonable. For purposes of performance measurement, screening frequency is specified as once every five years [*Strong Recommendation*].

Clinical Considerations: The USPSTF recently stated there is no evidence of improved functional ability or quality-of-life improvement [*Low Quality Evidence*] from vision screening. Primary studies reviewed by the work group found good evidence linking vision screening to improved vision and that vision screening is beneficial in reducing falls.

A review of epidemiologic studies conducted in the United States, United Kingdom, and Australia concluded that the prevalence of under-corrected visual impairment is about 10% between the ages of 65 and 75 and 20% above the age of 75 [*Low Quality Evidence*]. These summary estimates include only one U.S. study [*Low Quality Evidence*], but are generally consistent with other U.S. studies [*Moderate Quality Evidence*], [*Low Quality Evidence*].

Preventive Services for Which the Evidence Is Currently Incomplete and/or High Burden of Disease and Low Cost of Delivering Care. Providing These Services Is Left to the Judgment of Individual Medical Groups, Clinicians and Their Patients (Level III)

Level III services either have insufficient evidence to prove their effectiveness and/or have important harms. For these preventive services in particular, decisions about recommending the service should be based on shared decision-making. It is important to remember that insufficient evidence does not mean the service is not effective, but rather that the current literature is not sufficient to say whether or not the service is effective.

Refer to the original guideline document for information on Level III services including:

- Advance directives counseling
- Bimanual pelvic exam for screening
- Calcium and vitamin D chemoprophylaxis counseling
- Clinical breast exam screening
- Dementia routine screening
- Drug abuse screening and counseling
- Injury prevention screening and counseling
- Preconception counseling
- Pregnancy prevention counseling
- Prostate cancer screening
- Sexually transmitted infection counseling
- Sexually transmitted infection screening (other than HIV and chlamydia)
- Skin cancer screening and counseling
- Thyroid dysfunction screening

Preventive Services That Are Not Supported by Evidence and Not Recommended (Level IV)

Level IV services are those with low predictive value and/or uncertain beneficial action for true positives. They may also be a combination of insufficient evidence, potential for harm in treatment, no defined benefit and/or overuse.

Refer to the original guideline document for information on Level IV services including:

- Coronary heart disease routine screening
- Diabetes routine screening
- Other lab testing (routine)
- Ovarian cancer screening
- Screening for chronic obstructive pulmonary disease (COPD) with spirometry
- Carotid artery stenosis screening with carotid ultrasound

Definitions:

Quality of Evidence and Strength of Recommendations

Category	Quality Definitions	Strong Recommendation	Weak Recommendation
High Quality Evidence	Further research is very unlikely to change confidence in the estimate of effect.	The work group is confident that the desirable effects of adhering to this recommendation outweigh the undesirable effects. This is a strong recommendation for or against. This applies to most patients.	The work group recognizes that the evidence, though of high quality, shows a balance between estimates of harms and benefits. The best action will depend on local circumstances, patient values or preferences.
Moderate Quality Evidence	Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate.	The work group is confident that the benefits outweigh the risks, but recognizes that the evidence has limitations. Further evidence may impact this recommendation. This is a recommendation that likely applies to most patients.	The work group recognizes that there is a balance between harms and benefit, based on moderate quality evidence, or that there is uncertainty about the estimates of the harms and benefits of the proposed intervention that may be affected by new evidence. Alternative approaches will likely be better for some patients under some circumstances.
Low Quality Evidence	Further research is very likely to have an important impact on confidence in the estimate of effect and is likely to change. The estimate or any estimate of effect is very uncertain.	The work group feels that the evidence consistently indicates the benefit of this action outweighs the harms. This recommendation might change when higher quality evidence becomes available.	The work group recognizes that there is significant uncertainty about the best estimates of benefits and harms.

Clinical Algorithm(s)

None provided

Evidence Supporting the Recommendations

References Supporting the Recommendations

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Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for selected recommendations (see the "Major Recommendations" field).

This guideline is a synthesis of recommendations from other Institute for Clinical Systems Improvement (ICSI) guidelines, primary evidence through literature reviews, other professional groups, particularly the U.S. Preventive Services Task Force, and work group consensus.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate use of a comprehensive approach to the provision of evidence-based preventive services, including screening maneuvers, immunizations, counseling and education as demonstrated by increased rate of patients up-to-date with Level I preventive services

Potential Harms

- Aspirin therapy has been associated with an increase in serious bleeding events (gastrointestinal hemorrhage and hemorrhagic stroke). Estimates of the magnitude of benefits and harms of aspirin therapy vary with an individual's risk for coronary heart disease (CHD) and stroke.
- There is no evidence about potential harms of screening for depression except that there may be a short-term increase in suicidal

behavior in individuals ages 18 to 29 years who received antidepressants, especially paroxetine.

- Prostate cancer screening is associated with important harms, primarily frequent false-positive results leading to undue anxiety and unnecessary biopsies. Up to 30% of men experience at least moderate discomfort following biopsy, although significant complications (infection, urinary retention, bleeding) occur less than 1% of the time. The greatest potential for harm is related to the potential cascade of treatment events following prostate-specific antigen (PSA) testing and a positive biopsy. The detection of any prostate cancer, whether aggressive or non-aggressive, very frequently leads to either definitive surgical treatment or radiation therapy, so that harms associated with treatment (e.g., erectile dysfunction, urinary incontinence) must be considered as harms associated with screening.
- Screening for breast cancer is associated with important potential harms including equivocal or false-positive mammograms, which may lead to unnecessary biopsies and anxiety. Newer technologies, biopsy techniques, and systems of care may obviate these concerns to some degree.
- Any cervical cancer screening program risks harm from overdiagnosis and unnecessary treatments of lesions that would otherwise naturally regress or remain insignificant. Overdiagnosis risks patient anxiety, discomfort and increased frequency of future testing. Treatment of cervical lesions can risk adverse pregnancy outcomes, such as preterm delivery and low-birth-weight infants. Because of this, overtreatment is especially significant in young women.
- There is inadequate evidence on the harms of screening for hepatitis C virus (HCV). Potential harms include anxiety, patient labeling and feelings of stigmatization. There are harms associated with the diagnostic workup for guiding treatment decisions in a patient identified as having chronic hepatitis C infection (i.e., liver biopsy). There are harms related to the medications used to treat HCV.
- Some potential harms of intimate partner violence (IPV) screening include shame, guilt, self-blame, fear of retaliation or abandonment by perpetrators, and the repercussions of false-positive results. Focus group interviews with women who had experienced IPV described potential negative consequences of screening as feeling judged by the health care provider, increased anxiety about the unknown, feeling that the intervention protocol was cumbersome or intrusive, and disappointment in the health care provider's response to disclosure.

Qualifying Statements

Qualifying Statements

- The information contained in this Institute for Clinical Systems Improvement (ICSI) Health Care Guideline is intended primarily for health professionals and other expert audiences.
- This ICSI Health Care Guideline should not be construed as medical advice or medical opinion related to any specific facts or circumstances. Patients and families are urged to consult a health care professional regarding their own situation and any specific medical questions they may have. In addition, they should seek assistance from a health care professional in interpreting this ICSI Health Care Guideline and applying it in their individual case.
- This ICSI Health Care Guideline is designed to assist clinicians by providing an analytical framework for the evaluation and treatment of patients, and is not intended either to replace a clinician's judgment or to establish a protocol for all patients with a particular condition.
- This guideline is not intended to diagnose or treat any condition. If a health issue or condition is found or suspected, or a screening maneuver is abnormal, other guidelines (such as the "Lipid Management in Adults" guideline or "Hypertension Diagnosis and Treatment" guideline) address the details of subsequent evaluation, testing and management.
- This guideline is intended to be used primarily by health care organizations to design systems of care for the reliable delivery of preventive services to populations of patients. The various tests included in this guideline are discussed only in the context of screening asymptomatic individuals and the early detection of certain clinical conditions. The work group does not address the use of these tests in patients with symptoms, or for the ongoing management of these conditions.
- While there is good evidence that modifying certain behaviors has positive health benefits (unsafe sex, accidents and safety, nutrition, physical activity) there is minimal evidence at present that screening for these conditions or asking about them in the context of a risk assessment, even if followed by advice from a clinician or other clinician, will result in a change in behavior or positive outcomes. Therefore, this guideline makes:
 - Minimal recommendations for risk assessment to drive counseling for what are largely lifestyle issues
 - Specific recommendation that risk assessment and counseling about lifestyle not be considered suitable parameters for systematic implementation measures
 - Counseling messages for those clinicians who want to provide such counseling or whose patients express an interest in receiving this information
- Most of the elements of the traditional physical examination are notably absent from these recommendations. The physical examination was originally developed and taught as a way to thoroughly evaluate the patient with a significant health problem or complaint, particularly one in a hospital setting. It was not designed as a screening test for an asymptomatic person; in fact, it fails nearly all of the criteria for an effective screening test identified by most authorities. As a diagnostic test, done in response to specific complaints or symptoms, the physical exam remains of inestimable, if underutilized value. The only elements of the physical exam that have been sufficiently studied and that are recommended by this guideline are blood pressure evaluation as part of hypertension screening (Level I); height, weight and body mass index as part of obesity screening (Level II); vision screening (Level II); and hearing screening (Level II). For the other exams specifically mentioned in the guideline, there is incomplete evidence and/or high burden of disease and low cost of delivery care: for clinical breast exam screening (Level III), digital rectal exam of the prostate (Level III) and skin cancer screening for the general population (Level III). Level III services are left to the judgment of individual medical groups, clinicians and their patients. There is no evidence that cardiopulmonary, abdominal or neurologic exams, or the bimanual pelvic exam, done as routine screening maneuvers in asymptomatic patients, will reliably detect occult disease of any type. The work group recognizes the real and intangible benefits, as well as patient expectations, inherent in examining a patient, but cautions against assuming that all patients

expect or want a physical exam as a part of routine preventive services.

Implementation of the Guideline

Description of Implementation Strategy

Once a guideline is approved for general implementation, a medical group can choose to concentrate on the implementation of that guideline. When four or more groups choose the same guideline to implement and they wish to collaborate with others, they may form an action group.

In the action group, each medical group sets specific goals they plan to achieve in improving patient care based on the particular guideline (s). Each medical group shares its experiences and supporting measurement results within the action group. This sharing facilitates a collaborative learning environment. Action group learnings are also documented and shared with interested medical groups within the collaborative.

Currently, action groups may focus on one guideline or a set of guidelines such as hypertension, lipid treatment, and tobacco cessation.

Implementation Recommendations

Prior to implementation, it is important to consider current organizational infrastructure that address the following:

- System and process design
- Training and education
- Culture and the need to shift values, beliefs and behaviors of the organization

The following system changes were identified by the guideline work group as key strategies for health care systems to incorporate in support of the implementation of this guideline.

- Prioritization and implementation of preventive services should be part of the overall system and should include the following:
 - Practice preventive services at every clinic opportunity while addressing high-priority services.
 - Individualize preventive services; regularly assess patient risk factors.
 - Provide resources around lifestyle change and available community resources.
- Develop a plan for staff and clinician education around preventive services and organizational goals for implementation of preventive services (should also include education around "level" of service and the rationale behind each level).
- For those organizations having electronic medical records (EMR), develop a decision support component that will generate reminders for preventive services in order to support completion of recommended Level I services.
- For those organizations with a paper medical record, create a "tickler" system that will generate reminders for preventive services in order to support completion of recommended Level I services.
- Develop a "catch-up" plan for those patients who are not on time with services by creating a tracking system that allows for periodic medical record audits to identify patient gaps in preventive services.
- Develop a collaborative relationship with patients in order to activate/motivate them to practice preventive health.
- Place throughout the facility patient education materials that focus on preventive services and the importance of each. Materials may include, but are not limited to, posters, pamphlets, videos and available Web sites, as well as services available in the community.
- Develop a process for encouraging the elderly that it is important for them to be accompanied by a family member/caretaker at each visit.

Implementation Tools

Chart Documentation/Checklists/Forms
 Quality Measures
 Quick Reference Guides/Physician Guides
 Resources

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

Related NQMC Measures

- [Preventive services for adults: percentage of patients age 18 years and older who are screened for risky/harmful alcohol use and/or abuse.](#)
- [Preventive services for adults: percentage of male patients ages 45 to 79 years at risk for myocardial infarctions who receive aspirin chemoprophylaxis counseling.](#)
- [Preventive services for adults: percentage of female patients ages 55 to 79 years at risk for ischemic stroke who receive aspirin chemoprophylaxis counseling.](#)
- [Preventive services for adults: percentage of female patients ages 50 to 75 years who have screening for breast cancer every one to two years.](#)
- [Preventive services for adults: percentage of female patients ages 21 to 65 years who have screening for cervical cancer every three years.](#)
- [Preventive services for adults: percentage of sexually active women age 25 years and younger who have screening for chlamydia.](#)

- Preventive services for adults: percentage of patients ages 50 to 75 years who are up-to-date with colorectal cancer screening.
- Preventive services for adults: percentage of African American, American Indian or Alaska Native patients age 45 years and older who are up-to-date with colorectal cancer screening.
- Preventive services for adults: percentage of patients age 18 years and older with blood pressure documented in the medical record (every two years if less than 120/80, every year if 120-139/80-89 Hg).
- Preventive services for adults: percentage of adult patients 18 years and older who are up-to-date with the following immunizations: 1) one Td or Tdap in the last 10 years, 2) varicella – two doses or history of disease up to year 1995, 3) PPSV23 for patients 65 and older, 4) one influenza, and 5) herpes zoster/shingles (patients 60 years and older).
- Preventive services for adults: percentage of male patients age 34 years and older who have lipid screening every five years.
- Preventive services for adults: percentage of female patients age 44 years and older who have lipid screening every five years.
- Preventive services for adults: percentage of patients age 18 years and older who have tobacco status checked at each clinician visit.

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)

Wilkinson J, Bass C, Diem S, Gravley A, Harvey L, Maciosek M, McKeon K, Milteer L, Owens J, Rothe P, Snellman L, Solberg L, Vincent P. Preventive services for adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2013 Sep. 107 p. [183 references]

Adaptation

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

Date Released

1995 Jun (revised 2013 Sep)

Guideline Developer(s)

Institute for Clinical Systems Improvement - Nonprofit Organization

Guideline Developer Comment

The Institute for Clinical Systems Improvement (ICSI) is comprised of 50+ medical group and hospital members representing 9,000 physicians in Minnesota and surrounding areas, and is sponsored by five nonprofit health plans. For a list of sponsors and participating organizations, see the [ICSI Web site](#).

Source(s) of Funding

- The Institute for Clinical Systems Improvement (ICSI) provided the funding for this guideline. The annual dues of the member medical groups and sponsoring health plans fund ICSI's work. Individuals on the work group are not paid by ICSI, but are supported by their medical group for this work.
- ICSI facilitates and coordinates the guideline development and revision process. ICSI, member medical groups, and sponsoring health plans review and provide feedback, but do not have editorial control over the work group. All recommendations are based on the work group's independent evaluation of the evidence.

Guideline Committee

Preventive Services Steering Committee

Composition of Group That Authored the Guideline

Work Group Members: John M. Wilkinson, MD (*Work Group Leader*) (Mayo Clinic) (Family Medicine); Charles Bass, MD (HealthPartners Medical Group and Regions Hospital) (Family Medicine); Michael Maciosek, PhD (HealthPartners Medical Group and Regions Hospital) (Research); Peter Rothe, MD, FACP (HealthPartners Medical Group and Regions Hospital) (Internal Medicine/Geriatrics); Leonard Snellman, MD (HealthPartners Medical Group and Regions Hospital) (Pediatrics); Leif Solberg, MD (HealthPartners Medical Group and Regions Hospital) (Family Medicine); Leslie C. Milteer, PA-C (Multicare Associates) (Advanced Practitioner); Patricia Vincent, MD (Northwest Family

Physicians) (Family Medicine); Kimberly J. McKeon, MD (Olmsted Medical Center) (OB/GYN); Lisa Harvey, RD, MPH (Park Nicollet Health Services) (Health Education); Andrea Gravley, RN, MAN, CPNP (South Lake Pediatrics) (Pediatrics); Susan Diem, MD, MPH (University of Minnesota Clinicians) (Internal Medicine); Jacob Owens, MPH, Institute for Clinical Systems Improvement) (Project Manager)

Financial Disclosures/Conflicts of Interest

The Institute for Clinical Systems Improvement (ICSI) has long had a policy of transparency in declaring potential conflicting and competing interests of all individuals who participate in the development, revision and approval of ICSI guidelines and protocols.

In 2010, the ICSI Conflict of Interest Review Committee was established by the Board of Directors to review all disclosures and make recommendations to the board when steps should be taken to mitigate potential conflicts of interest, including recommendations regarding removal of work group members. This committee has adopted the Institute of Medicine Conflict of Interest standards as outlined in the report Clinical Practice Guidelines We Can Trust (2011).

Where there are work group members with identified potential conflicts, these are disclosed and discussed at the initial work group meeting. These members are expected to recuse themselves from related discussions or authorship of related recommendations, as directed by the Conflict of Interest committee or requested by the work group.

The complete ICSI policy regarding Conflicts of Interest is available at the [ICSI Web site](#).

Disclosure of Potential Conflicts of Interest

Charles Bass, MD (Work Group Member)

Family Physician, HealthPartners Medical Group and Regions Hospital
National, Regional, Local Committee Affiliations: None
Guideline-Related Activities: None
Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

Susan Diem, MD, MPH (Work Group Member)

Assistant Professor of Medicine and Adjunct Assistant Professor of Epidemiology, Internist, University of Minnesota Clinicians
National, Regional, Local Committee Affiliations: None
Guideline-Related Activities: None
Research Grants: Received grant money to her institution from the National Institute on Aging for testosterone replacement in older men.
Financial/Non-Financial Conflicts of Interest: None

Andrea Gravley, RN, MAN, CPNP (Work Group Member)

Pediatric Nurse Practitioner, Pediatrics, South Lake Pediatrics
National, Regional, Local Committee Affiliations: Maple Grove Hospital Lactation work group
Guideline-Related Activities: None
Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

Lisa Harvey, RD, MPH (Work Group Member)

Director, Health Education, Park Nicollet Health Services
National, Regional, Local Committee Affiliations: None
Guideline-Related Activities: None
Research Grants: Receives grant money to institution from the Mayo Clinic related to decision support.
Financial/Non-Financial Conflicts of Interest: None

Michael Maciosek, PhD (Work Group Member)

Research Investigator, HealthPartners Research Foundation, HealthPartners Health Plan
National, Regional, Local Committee Affiliations: None
Guideline-Related Activities: None
Research Grants: Receives grant money to his institution from Robert Wood Johnson Foundation, Centers for Disease Control and National Institute for Health for preventive services, disease management and cancer treatment.
Financial/Non-Financial Conflicts of Interest: None

Kimberly McKeon, MD (Work Group Member)

Obstetrician and Gynecologist, Olmsted Medical Center
National, Regional, Local Committee Affiliations: None
Guideline-Related Activities: None
Research Grants: None
Financial/Non-Financial Conflicts of Interest: None

Leslie Milteer, PA-C (Work Group Member)

Clinician Assistant, Multicare Associates
National, Regional, Local Committee Affiliations: Minnesota Academy of PAs Board Member, American Academy of PAs Delegates Member
Guideline-Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Peter Rothe, MD, FACP (Work Group Member)

Internist, Geriatrics and Hospice, Health Partners Medical Group and Regions Hospital

National, Regional, Local Committee Affiliations: None

Guideline-Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Leonard Snellman, MD (Work Group Member)

Pediatrician, White Bear Lake Medical Center, HealthPartners Medical Group and Regions Hospital

National, Regional, Local Committee Affiliations: None

Guideline-Related Activities: ICSI Respiratory Illness in Children and Adults

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Leif Solberg, MD (Work Group Member)

Director Care Improvement Research, Family Medicine, HealthPartners Research Foundation

National, Regional, Local Committee Affiliations: Board member for HealthPartners Research Foundation.

Guideline-Related Activities: None

Research Grants: Receives grant monies paid to institution from Patient-Centered Outcomes Research Institute (PCORI) for high-tech imaging, Centers for Medicare and Medicaid Services (CMS) for COMPASS (Care of Mental and Physical and Substance Use Syndromes), Agency for Healthcare Research and Quality (AHRQ) for medical homes.

Financial/Non-Financial Conflicts of Interest: None

Patricia Vincent, MD (Work Group Member)

Clinician, Family Practice, Northwest Family Physicians

National, Regional, Local Committee Affiliations: Board member for Preferred One Clinicians Association Insurance Company with money paid to her. Board member for Minnesota Academy of Family Clinicians Foundation, unpaid.

Guideline-Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

John Wilkinson, MD (Work Group Leader)

Consultant, Department of Family Medicine, Assistant professor of Family Medicine, Mayo Clinic and Mayo Foundation

National, Regional, Local Committee Affiliations: None

Guideline-Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Wilkinson J, Bass C, Diem S, Gravley A, Harvey L, Hayes R, Johnson K, Maciosek M, McKeon K, Milteer L, Morgan J, Rothe P, Snellman L, Solberg L, Storlie C, Vincent P. Preventive services for adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Sep. 96 p.

Guideline Availability

Electronic copies: Available from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#).

Print copies: Available from ICSI, 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; telephone, (952) 814-7060; fax, (952) 858-9675; Web site: www.icsi.org; e-mail: icsi.info@icsi.org.

Availability of Companion Documents

The following is available:

- Preventive services for adults. Executive summary. Bloomington (MN): Institute for Clinical Systems Improvement; 2013 Sep. 1 p.
Electronic copies: Available in Portable Document Format (PDF) from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#).

Print copies: Available from ICSI, 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; telephone, (952) 814-7060; fax, (952) 858-9675; Web site: www.icsi.org; e-mail: icsi.info@icsi.org.

In addition, a sample form of the Alcohol Use Disorders Identification Test (AUDIT) structured interview, as well as suggested counseling messages to address health-related behaviors and injury prevention and a shared decision-making model, are available in the appendices of the [original guideline document](#).

Patient Resources

None available

NGC Status

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Agency for Healthcare Research and Quality • 540 Gaither Road Rockville, MD 20850 • Telephone: (301) 427-1364