


Clinical Preventive Services (United States Preventive Services Task Force)

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In [Chapter 16](#), we explored how screening is, in the most literal sense, “looking for trouble.” Looking for trouble makes sense if, by finding it early, it can be fixed. But if you don’t know what to do with the trouble you find, you are no longer just looking for trouble, you are *asking* for it.¹ The credibility of preventive medicine depends on the following two goals:

- Screening is only done if it meets rigorous standards.
- The screening test can realistically be integrated in the busy practice of *all* clinicians.

I. UNITED STATES PREVENTIVE SERVICES TASK FORCE

The U.S. Preventive Services Task Force (USPSTF) was founded in 1984 to address these goals. This chapter focuses on why its work is important and how busy clinicians can keep up-to-date with and incorporate the Task Force’s recommendations. Recommendations for clinical preventive services change frequently with emerging evidence. For more details and updated recommendations, readers should consult USPSTF online (see [Website](#) list at end of chapter).

A. Mission and History

When the USPSTF was first convened by the U.S. Public Health Service in 1984, it was modeled on an earlier Canadian task force to serve as an independent panel of experts on prevention and evidence-based medicine (EBM). Since 1995, the Task Force has worked under the **Agency of Healthcare Research and Quality** (AHRQ). It covers all primary and secondary preventive services, including screening, counseling, and specific chemoprophylaxis.² The Task Force aims to provide accurate and balanced recommendations across a spectrum of populations, types of services, and disease types. Its mission is to:

1. Assess the benefits and harm of delivering preventive services to asymptomatic individuals (based on age, gender, and risk factors).
2. Recommend which services should be incorporated into primary care.

This mission is very circumscribed. The USPSTF only considers screening of **asymptomatic** patients, and it only deals with preventive services within **primary care**. Often, however, USPSTF recommendations are criticized by specialist organizations. Specialists may primarily see preselected patients with subtler symptoms that were missed earlier or may see high-risk groups. Screening decisions for such patients may be different from those for the general population, because the pretest probability of disease is much higher. On the other hand, recommendations of USPSTF are sometimes used for insurance decisions about which screening tests to cover. In these cases, recommendations may be more broadly applied than intended. In contrast to the Community Preventive Services Guide (see [Chapter 26](#)), the USPSTF does not take cost-effectiveness or financial concerns into consideration.

When the USPSTF was founded, its principles were revolutionary: that preventive care should be rigorously evaluated, and that not every screening test was worth doing. In its history, USPSTF has often recommended against or failed to endorse screening tests that were recommended by other organizations. The reason for this reluctance to endorse some interventions may be based on several assumptions of the Task Force.

B. Underlying Assumptions

As outlined in [Chapter 16](#), screening studies are subject to many biases that lead researchers to **overestimate benefits**. Therefore the Task Force places a higher burden of evidence

for benefits than for evidence of harm. For benefits, USPSTF will only accept evidence from randomized controlled trials (RCTs), community trials, meta-analyses, or systematic reviews. However, it will take into account evidence of cohort studies and case-control studies in calculations of harm.

Prevention studies describe the **upper bounds of efficacy**. In other words, controlled trials describe a best-case scenario with well-trained and highly motivated providers and patients. The Task Force assumes that in the real world, with unselected providers and in the general population, the effectiveness of a screening program will be lower.

Delivery of a screening service is not an outcome. Diagnosis of a disease also is not an outcome. Therefore the benefit of a screening program lies not in the number of patients screened or the number of patients diagnosed with disease, but only in the health outcomes. **Health outcomes** are changes in a patient's health or health perception, such as pain, shortness of breath, or death. In contrast to health outcomes, **intermediate outcomes** are measurements of pathology or physiology that can lead to health outcomes (e.g., high blood pressure). USPSTF will give no weight to evidence of number of screening events or cases found, and it gives greater weight to studies of health outcomes than to those of intermediate outcomes.

Because the standard for evidence is so high, USPSTF may wait longer than other organizations before endorsing screening modalities, as with lung cancer screening using

helical computed tomography (CT). The number of patient lives potentially saved must be weighed against the risk of subjecting healthy patients to potentially harmful screening tests. With this tension and when in doubt, the Task Force seems to prefer being late to being wrong.

C. Evidence Review and Recommendations

Developing a recommendation is a two-part process: reviewing the evidence and formulating recommendations. Although the Task Force itself makes the recommendations, independent centers review the evidence. USPSTF has established 12 such **evidence-based practice centers (EPCs)**.³ The literature review and recommendation process is highly structured and includes various steps to safeguard the Task Force's integrity and to help it pursue its goals of transparency, accountability, consistency, and independence⁴ (Table 18-1). Safeguards include stringent criteria for selection of members, stringent policies regarding conflict of interest, dual review of each abstract, and a comment period for community partners and the public.

CRITICAL APPRAISAL QUESTIONS

- Do the studies have the appropriate research design to answer the key questions?
- What is the internal validity?
- What is the external validity?

Table 18-1 Procedures for Developing a Recommendation Statement

Activity*	Responsible Parties	Timeline
Topic selection	Topic Prioritization Workgroup, a subset of Task Force members and AHRQ and EPC staff	The Workgroup meets periodically throughout the year.
Work plan development	The EPC writes work plans with guidance from a topic team consisting of 3 or 4 USPSTF members and a medical officer from AHRQ.	From start to finish, these activities—development, peer review, and approval—take 3–6 months.
External work plan peer review	Work plans are reviewed by experts in the field.	
Approval of peer-reviewed work plan†	All members of USPSTF	
Draft evidence report	Evidence reports are written by EPC or by AHRQ medical officers, depending on topic.	Typically completed within 6–24 months, depending on the scope of the topic.
Peer review of draft evidence report by experts and partners	All draft evidence reports are sent to limited number of experts in the field and 6 federal partners‡ for review, and Task Force leaders are asked to comment on draft evidence report.	
Draft recommendation statement	Task Force members draft recommendation statement with AHRQ medical officer.	Completed within 2–4 weeks.
USPSTF review of evidence and vote on draft recommendation statement	All members of USPSTF	
Final evidence report	EPC and AHRQ medical officer incorporate reviewer comments and finalize evidence report.	Submitted to AHRQ within 3–6 months after USPSTF vote.
Peer review of draft recommendation statement by partners	22 partners of USPSTF	Partners typically have 2–3 weeks to review draft recommendation statement.
Approval of final recommendation statement	Task Force members	USPSTF members typically approve recommendation statement as final within 1–2 months.
Release of recommendation statement and evidence report	AHRQ staff	Time from vote to release (publication in journal and posting on website) of the recommendation varies.

Modified from Guirguis-Blake J: *Ann Intern Med* 147:117–121, 2007.

*Listed in order starting with the initial step.

†This step usually occurs at a Task Force meeting, although in the case of topic updates, work plan peer review and Task Force approval are exceptional rather than usual.

‡Centers for Disease Control and Prevention, Centers for Medicare and Medicaid Services, Food and Drug Administration, Indian Health Service, National Institutes of Health, and Veterans Administration.

AHRQ, Agency for Healthcare Research and Quality; EPC, evidence-based practice center; USPSTF, U.S. Preventive Services Task Force.

- How many studies have been conducted that address the key question, and how large are the studies?
- How consistent are the results?
- Are there additional factors that raise confidence in the results (e.g., dose-response effects, consistency with biologic models)?

TASK FORCE MEMBERS

Sixteen members serve on the Task Force at any given time. About 25% of USPSTF members are replaced each year. Members are nominated in a public process and are chosen based on their expertise in the subject matter, research methods, disease prevention, application of synthesized evidence to clinical decision making, and clinical expertise in primary health care. They are chosen through a rigorous process and serve staggered 4-year terms on the committee.

KEY QUESTIONS

Once an evidence review is complete, USPSTF members vote on the eight key questions that determine if screening for a condition X is recommended:

1. Does screening for X reduce morbidity and/or mortality?
2. Can a group at high risk for X be identified on clinical grounds?
3. Are accurate screening tests available?
4. Are treatments available that make a difference in intermediate outcomes when the disease is caught early?
5. Are treatments available that make a difference in morbidity and mortality (patient outcomes) when the disease is caught early?
6. How strong is the association between the intermediate outcomes and patient outcomes?
7. What are the harms of the screening test?
8. What are the harms of treatment?

GRADING SERVICES

Once Task Force members have answered these questions, the group assigns a grade for the service of A, B, C, D, or I² (Table 18-2). After assigning a tentative grade, the Task Force discusses these recommendations with federal and primary care partners. Federal partners include the Centers for Disease Control and Prevention (CDC), Center for Medicare and Medicaid Services (CMS), Health Resource and Services Administration (HRSA), National Institutes of Health (NIH), and Food and Drug Administration (FDA). Examples of primary care partners include the American Medical Association, American College of Physicians, and American College of Preventive Medicine.

The results of the evidence review and the Task Force recommendations are posted for comments by the partners and public, published in reputable journals, and disseminated on the Internet.

In clinical practice there is little difference between grade A and B recommendations; in both cases the service should be strongly encouraged. Services with grades of C, D, and I should not be routinely used. However, it is important to understand the difference between these grades. For grades A through D, USPSTF is reasonably certain it understands the balance of benefits and harm. For services graded C, there is a net benefit, but it is likely small. A service with a C recommendation is breast cancer screening for women younger than 50 (see Chapter 16). Decisions about these C services should be individualized. In contrast, for services graded D, there is clear evidence that there is *no* net benefit, or that there is net harm; an example is screening for ovarian cancer. These D services should be avoided.

For services with an I grade, evidence is lacking or conflicting, and the Task Force has determined that they can neither recommend for nor recommend against the service. As of 2012, services with an I grade include skin cancer screening, colorectal cancer screening with CT colonography,

Table 18-2 Grades Assigned to Screening Recommendation and Suggestions for Practice

Grade	Definition	Net Benefit?	Suggestions for Practice
A	USPSTF recommends the service.	High certainty for net benefit	Offer/provide this service.
B	USPSTF recommends the service.	At least moderate certainty for net benefit	Offer/provide this service.
C	USPSTF does not recommend routinely providing this service. Clinicians may choose to provide this service to select patients depending on individual circumstances. However, for most individuals without signs or symptoms, there is likely to be only a small benefit from this service.	At least moderate certainty that the net benefit is small	Offer/provide this service <i>only</i> if other considerations support the offering or providing the service in an individual patient.
D	USPSTF recommends against the service.	Moderate or high certainty of no benefit or net harm	Discourage the use of this service.
I	USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting.	No certainty on balance of benefits/harms	Read Clinical Considerations section of USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

Modified from <http://www.uspreventiveservicestaskforce.org/uspstf07/ratingsv2.htm>. USPSTF, U.S. Preventive Services Task Force.

and screening for lung cancer using helical CT.⁶ These services require the most time to discuss, and patients and clinicians should engage in shared decision making to understand consequences of testing and of not testing, as well as the patient's risk preferences. Such shared decision making is not only time-consuming but also requires some sophisticated evaluation of trade-offs on both sides.

II. ECONOMICS OF PREVENTION

Attitudes towards preventive services vary. Some people believe that prevention must be a good in itself. Intuition suggests that finding problems early will make them easier to treat. Many political campaigns address the rising costs of health care by promising to spend more on prevention. On the other end of the spectrum are health economists, who argue that prevention rarely reduces costs and that preventive services should be used very selectively.⁷

A more balanced approach focuses on **value**. Health is a **public good**. We do not expect other public goods (e.g., clean water, national security) to save money. However, money spent on public goods should be spent wisely; we should try to obtain as much health as we can with every dollar spent.⁸ In a setting of limited health care resources, monies for disease care *and* prevention should go toward those services that deliver the most health. Fortunately, the following core set of preventive services has proved highly effective⁹:

- Screening for hypertension, dyslipidemia, obesity, colorectal and cervical cancer, and breast cancer in women over 50
- Childhood and adult immunizations

- Smoking cessation counseling
- Use of aspirin in persons at high risk for cardiovascular disease

According to the National Commission on Prevention Priorities, 100,000 deaths could be averted each year by increasing delivery of five high-value clinical preventive services.¹⁰ Increasing use of these services might be cost-neutral or even cost-saving.¹¹

Table 18-3 provides one ranking of preventive services by considerations of cost-effectiveness. **Clinically preventable burden** (CPB) is the disease, injury, and premature death that would be prevented if the service were delivered to all people in the target population. **Cost effectiveness** (CE) is a standard measure for comparing services' return on investment. Services with the same total score tied in the rankings: 10 = highest impact, most cost-effective, and 2 = lowest impact, least cost-effective, among these evidence-based preventive services.

A. Overuse, Underuse, and Misuse of Screening

In clinical practice, it is difficult (1) to deliver all highly effective preventive services consistently, (2) to avoid the less effective ones, and (3) to deliver services only to patients who will derive benefit. This may be even more difficult with the ascendancy of "patient-centered care"; patients may have priorities driven by passions, convictions, anxieties, and marketing that conflict with evidence-based guidelines.

Strong evidence exists for underuse of highly effective services. In the landmark Community Quality Index study published in 2003, only 54.9% of patients received all recommended preventive services.¹² This is partially driven by

Table 18-3 Ranking of Preventive Services for U.S. Population

Clinical Preventive Services	CPB	CE	Total
Discuss daily aspirin use—men 40+, women 50+	5	5	
Childhood immunizations	5	5	10
Smoking cessation advice and help to quit—adults	5	5	
Alcohol screening and brief counseling—adults	4	5	9
Colorectal cancer screening—adults 50+	4	4	
Hypertension screening and treatment—adults 18+	5	3	
Influenza immunization—adults 50+	4	4	8
Vision screening—adults 65+	3	5	
Cervical cancer screening—women	4	3	7
Cholesterol screening and treatment—men 35+, women 45+	5	2	
Pneumococcal immunizations—adults 65+	3	4	
Breast cancer screening—women 40+	4	2	
Chlamydia screening—sexually active women under 25	2	4	
Discuss calcium supplementation—women	3	3	6
Vision screening—preschool children	2	4	
Discuss folic acid use—women of childbearing age	2	3	5
Obesity screening—adults	3	2	
Depression screening—adults	3	1	
Hearing screening—adults 65+	2	2	
Injury prevention counseling—parents of children ages 0-4	1	3	4
Osteoporosis screening—women 65+	2	2	
Cholesterol screening—men < 35, women < 45 at high risk	1	1	
Diabetes screening—adults at risk	1	1	2
Diet counseling—adults at risk	1	1	
Tetanus-diphtheria booster—adults	1	1	

Modified from <http://www.prevent.org/National-Commission-on-Prevention-Priorities/Rankings-of-Preventive-Services-for-the-US-Population.aspx>.
CPB, Clinically preventable burden; CE, cost-effectiveness.

reimbursement; Medicare pays for 93% of recommended preventive services for adults, but the required counseling and coordination are mostly unreimbursed.¹³ In a typical clinical practice, urgent problems and symptomatic conditions can easily supersede conversations about health maintenance.¹⁴

The Task Force recommends that clinicians track delivery of all services with an A or a B grade for every patient to ensure that all patients receive these services. Many electronic health records feature reminders at the point of care to help providers integrate preventive services. Alternatively, and for paper charts, an assistant can check if the patient is due for recommended services and can prepare screening test requisitions in advance. In either case, the time required is considerable. Some authors estimate it would take 7.4 hours per workday just to incorporate all recommended services into primary care.¹⁵ This problem might prove intractable until the implementation of more innovative care models that link payments to long-term outcomes and thereby make prevention an efficient use of practice time (see Chapter 29, Cost Containment Strategies).

However, the problem is not only lack of time and reimbursement. Strong evidence also exists for overuse and misuse of screening services. Medicare reimburses physicians for 44% of services that have a D rating from the Task Force.¹³ A large proportion of Medicare patients undergo screening colonoscopies more frequently than recommended.¹⁶ Screening is overused in elderly patients and patients in poor health and at the end of life,^{17,18} who are unlikely to benefit from screening. The challenge for

clinicians is therefore twofold: (1) find more efficient ways to deliver preventive services to patients who need them and (2) discuss goals of care and expected benefits of screening with patients who are unlikely to benefit. This will probably require rethinking the delivery of care. No one provider can provide the array of preventive services and counseling necessary in a series of brief, one-on-one encounters. The solution may lie in a team-based model, such as the chronic care model¹⁹ (see Chapter 28).

It is even more difficult to have a meaningful conversation about services that depend on patient preferences for risk, such as those graded C (and some graded B, such as chemoprevention of breast cancer), or services with conflicting evidence (graded I). Many patients strongly demand services based on anecdotal evidence from friends, family members, or the media. For these services, the Task Force recommends community education, use of shared decision-making aids, and trained assistants.²⁰ However, such a sophisticated and personnel-intensive approach is probably not feasible for many primary care providers.

III. MAJOR RECOMMENDATIONS

A. Highly Recommended Services

Table 18-4 lists preventive services that have a rating of A or B from USPSTF. Recommended services are skewed toward screening: About 25 screening services are recommended, versus seven counseling services and seven chemoprevention

Table 18-4 Recommended Preventive Health Care Screening Services

Topic	Recommendation	Grade	Date in Effect
Abdominal aortic aneurysm screening: men	One-time screening for abdominal aortic aneurysm by ultrasonography in men age 65-75 who have ever smoked.	B	February 2005
Alcohol misuse counseling	Screening and behavioral counseling interventions to reduce alcohol misuse by adults, including pregnant women, in primary care settings.	B	April 2004
Anemia screening: pregnant women	Routine screening for iron deficiency anemia in asymptomatic pregnant women.	B	May 2006
Aspirin to prevent cardiovascular disease: men	Use of aspirin in men age 45-79 when potential benefit of reduction in myocardial infarctions outweighs potential harm of increase in gastrointestinal hemorrhage.	A	March 2009
Aspirin to prevent cardiovascular disease: women	Use of aspirin in women age 55-79 when potential benefit of reduction in ischemic strokes outweighs potential harm of increase in gastrointestinal hemorrhage.	A	March 2009
Bacteriuria screening: pregnant women	Screening for asymptomatic bacteriuria with urine culture for pregnant women at 12-16 weeks' gestation or at first prenatal visit, if later.	A	July 2008
Blood pressure screening: adults	Screening for high blood pressure in adults age 18 or older.	A	December 2007
BRCA screening, counseling about	Refer women whose family history is associated with increased risk for deleterious mutations in <i>BRCA1</i> or <i>BRCA2</i> genes for genetic counseling and evaluation for <i>BRCA</i> testing.	B	September 2005
Breast cancer—preventive medication	Discuss chemoprevention with women at high risk for breast cancer and at low risk for adverse effects of chemoprevention. Clinicians should inform patients of potential benefits and harms of chemoprevention.	B	July 2002
Breast cancer screening	Screening mammography for women, with or without clinical breast examination, every 1-2 years for women age 50-75 or older.	B	December 2009*
Breastfeeding counseling	Individualize decision to start mammography earlier than age 50. Use interventions during pregnancy and after birth to promote and support breastfeeding.	C	December 2009
		B	October 2008

Continued

Table 18-4 Recommended Preventive Health Care Screening Services—cont'd

Topic	Recommendation	Grade	Date in Effect
Cervical cancer screening	Screening for cervical cancer in women who have been sexually active and have a cervix age 21-64.	A	March 2012
Chlamydial infection screening: nonpregnant women	Screening for chlamydial infection for all sexually active nonpregnant young women age 24 or younger and for older nonpregnant women at increased risk.	A	June 2007
Chlamydial infection screening: pregnant women	Screening for chlamydial infection for all pregnant women age 24 or younger and for older pregnant women at increased risk.	B	June 2007
Cholesterol abnormalities screening: men ≥ 35	Screening men age 35 or older for lipid disorders.	A	June 2008
Cholesterol abnormalities screening: men < 35	Screening men age 20-35 for lipid disorders if at increased risk for coronary heart disease.	B	June 2008
Cholesterol abnormalities screening: women ≥ 45	Screening women age 45 or older for lipid disorders if at increased risk for coronary heart disease.	A	June 2008
Cholesterol abnormalities screening: women < 45	Screening women age 20-45 for lipid disorders if at increased risk for coronary heart disease.	B	June 2008
Colorectal cancer screening	Screening for colorectal cancer using fecal occult blood testing, sigmoidoscopy, or colonoscopy, in adults, beginning at age 50 and continuing until age 75. Risks and benefits of these screening methods vary.	A	October 2008
Dental caries chemoprevention: preschool children	Prescribe oral fluoride supplementation at currently recommended doses to preschool children older than 6 months whose primary water source is deficient in fluoride.	B	April 2004
Depression screening: adolescents	Screening of adolescents (age 12-18) for major depressive disorder when systems are in place to ensure accurate diagnosis, psychotherapy (cognitive-behavioral or interpersonal), and follow-up.	B	March 2009
Depression screening: adults	Screening adults for depression when staff-assisted depression care supports are in place to ensure accurate diagnosis, effective treatment, and follow-up.	B	December 2009
Diabetes screening	Screening for type 2 diabetes in asymptomatic adults with sustained blood pressure (either treated or untreated) $> 135/80$ mm Hg.	B	June 2008
Fall prevention in adults at risk for falls	Exercise, physical therapy, and Vitamin D supplementation	B	May 2012
Folic acid supplementation	Recommend daily supplement containing 0.4-0.8 mg (400-800 μ g) of folic acid to all women planning or capable of pregnancy.	A	May 2009
Gonorrhea prophylactic medication: newborns	Prophylactic ocular topical medication for all newborns against gonococcal ophthalmia neonatorum.	A	July 2011
Gonorrhea screening: women	Screen all sexually active women, including those who are pregnant, for gonorrhea infection if at increased risk for infection (i.e., if young or with other individual or population risk factors).	B	May 2005
Healthy-diet counseling	Intensive behavioral dietary counseling for adult patients with hyperlipidemia and other known risk factors for cardiovascular and diet-related chronic disease. Intensive counseling can be delivered by primary care clinicians or by referral to other specialists, such as nutritionists or dietitians.	B	January 2003
Hearing loss screening: newborns	Screening for hearing loss in all newborn infants.	B	July 2008
HBV screening: pregnant women	Screening for hepatitis B virus infection in pregnant women at first prenatal visit.	A	June 2009
Hemoglobinopathies screening: newborns	Screening for sickle cell disease in newborns.	A	September 2007
HIV screening	Screen for human immunodeficiency virus in all adolescents and adults at increased risk for HIV infection.	A	July 2005
Hypothyroidism screening: newborns	Screening for congenital hypothyroidism in newborns.	A	March 2008
Iron supplementation: children	Routine iron supplementation for asymptomatic children age 6-12 months at increased risk for iron deficiency anemia.	B	May 2006
Obesity screening and counseling: adults	Screen all adult patients for obesity and offer intensive counseling and behavioral interventions to promote sustained weight loss for adults with BMI > 30 .	B	September 2012
Obesity screening and counseling: children	Screen children age 6 years or older for obesity and offer (or refer for) comprehensive, intensive behavioral interventions to improve weight status.	B	January 2010
Osteoporosis screening: women	Screening for osteoporosis in women age 65 years or older and in younger women whose fracture risk equals or exceeds that of 65-year-old white woman who has no additional risk factors.	B	September 2011
PKU screening: newborns	Screening for phenylketonuria in newborns.	A	March 2008

Table 18-4 Recommended Preventive Health Care Screening Services—cont'd

Topic	Recommendation	Grade	Date in Effect
Rh incompatibility screening: first pregnancy visit	Rh (D) blood typing and antibody testing for all pregnant women during first visit for pregnancy-related care.	A	February 2004
Rh incompatibility screening: 24-28 weeks' gestation	Repeated Rh (D) antibody testing for all unsensitized Rh (D)-negative women at 24-28 weeks' gestation, unless biologic father known to be Rh (D)-negative.	B	February 2004
Sexually transmitted infections (STIs) counseling	High-intensity behavioral counseling to prevent STIs in all sexually active adolescents and in adults at increased risk for STIs.	B	October 2008
Syphilis screening: nonpregnant women	Screen nonpregnant women/persons at increased risk for syphilis infection.	A	July 2004
Syphilis screening: pregnant women	Screen all pregnant women for syphilis infection.	A	May 2009
Tobacco use counseling and interventions: nonpregnant women	Ask all nonpregnant women/adults about tobacco use, and provide tobacco cessation interventions for those who use tobacco products.	A	April 2009
Tobacco use counseling: pregnant women	Ask all pregnant women about tobacco use, and provide augmented, pregnancy-tailored counseling to those who smoke.	A	April 2009
Visual acuity screening: children	Screening to detect amblyopia, strabismus, and defects in visual acuity in children age 3-5 years.	B	January 2011

Modified from U.S. Preventive Services Task Force A and B Recommendations, March 2012. <http://www.uspreventiveservicestaskforce.org/uspstf/uspabrecs>.

*In 2009 the recommendations on screening have substantially changed, particularly in regard to women ages 40 to 50 and over 75 (see Chapter 16).

Table 18-5 Recommended Screening Tests for Women

Screening	Ages 18-39	Ages 40-49	Ages 50-64	Age 65 and older
Blood pressure (BP) test	At least every 2 years if normal BP (<120/80 mm Hg) Once a year if BP between 120/80 and 139/89 Discuss treatment with physician or nurse if BP 140/90 or higher.	At least every 2 years if normal BP (<120/80 mm Hg) Once a year if BP between 120/80 and 139/89 Discuss treatment with physician or nurse if BP 140/90 or higher.	At least every 2 years if normal BP (<120/80 mm Hg) Once a year if BP between 120/80 and 139/89 Discuss treatment with physician or nurse if BP 140/90 or higher.	At least every 2 years if normal BP (<120/80 mm Hg) Once a year if BP between 120/80 and 139/89 Discuss treatment with physician or nurse if BP 140/90 or higher.
Bone mineral density test (osteoporosis screening)			Discuss with physician or nurse if you think you are at risk of osteoporosis.	At least once at age 65 or older Talk to physician or nurse about repeat testing.
Breast cancer screening (mammogram)		Discuss with physician or nurse.	Starting at age 50, every 2 years	Every 2 years through age 74. Age 75 and older, ask physician or nurse if needed.
Cervical cancer screening: Pap test	At least every 3 years if ≥ 21 , or <21 and sexually active for at least 3 years	At least every 3 years	At least every 3 years	Ask physician or nurse if you need Pap test.
<i>Chlamydia</i> test	Yearly through age 24 if sexually active or pregnant Age ≥ 25 if at increased risk, pregnant, or not pregnant	If sexually active and at increased risk, pregnant, or not pregnant	If sexually active and at increased risk	If sexually active and at increased risk
Cholesterol test	Starting at age 20, regularly if at increased risk for heart disease Ask physician or nurse how often you need testing.	Regularly if at increased risk for heart disease Ask physician or nurse how often you need testing.	Regularly if at increased risk for heart disease Ask physician or nurse how often you need testing.	Regularly if at increased risk for heart disease Ask physician or nurse how often you need testing.

Data from <http://www.womenshealth.gov/publications/our-publications/screening-tests-for-women.pdf>.

interventions. Some counseling topics that may have a bearing on health, such as firearm safety and partner violence, are missing because of lack of evidence; other issues, such as healthy-diet counseling, are restricted to high-risk groups. This imbalance of recommended services may reflect that a few healthy lifestyle choices (diet, exercise, not

smoking) have an impact on many different diseases. It might also reflect which prevention research is funded or the difficulties involved with effective counseling.

In practice, it might be easier to follow a listing of services by age and gender (Tables 18-5 and 18-6). For screening of children, see Websites list at end of chapter.

Table 18-6 Recommended Screening Tests for Men

Screening	Ages 18-39	Ages 40-49	Ages 50-64	Age 65 and Older
Abdominal aortic aneurysm screening				Have this one-time screening if age 65-75 and ever smoked.
Blood pressure (BP) test	At least every 2 years if normal BP (<120/80 mm Hg) Once a year if BP between 120/80 and 139/89 Discuss treatment with physician or nurse if BP 140/90 or higher.	At least every 2 years if normal BP (<120/80 mm Hg) Once a year if BP between 120/80 and 139/89 Discuss treatment with physician or nurse if BP 140/90 or higher.	At least every 2 years if normal BP (<120/80 mm Hg) Once a year if BP between 120/80 and 139/89 Discuss treatment with physician or nurse if BP 140/90 or higher.	At least every 2 years if normal BP (<120/80 mm Hg) Once a year if BP between 120/80 and 139/89 Discuss treatment with physician or nurse if BP 140/90 or higher.
Cholesterol test	Starting at age 20 until age 35, if at increased risk for heart disease At age 35 and older, regularly Ask physician or nurse how often you need testing.	Regularly Ask physician or nurse how often you need testing.	Regularly Ask physician or nurse how often you need testing.	Regularly Ask physician or nurse how often you need testing.
Colorectal cancer screening (fecal occult blood testing, sigmoidoscopy, or colonoscopy)			Starting at age 50 Talk to physician or nurse about which screening test is best for you and how often you need it.	Through age 75 Talk to physician or nurse about which screening test is best for you and how often you need it.
Diabetes screening	If BP higher than 135/80 mm Hg or if taking medicine for high BP	If BP higher than 135/80 mm Hg or if taking medicine for high BP	If BP higher than 135/80 mm Hg or if taking medicine for high BP	If BP is higher than 135/80 mm Hg or if taking medicine for high BP
Human immunodeficiency virus (HIV) test	If at increased risk for HIV infection Discuss your risk with physician or nurse.	If at increased risk for HIV infection Discuss your risk with physician or nurse.	If at increased risk for HIV infection Discuss your risk with physician or nurse.	If at increased risk for HIV infection Discuss your risk with physician or nurse.
Syphilis screening	If at increased risk	If at increased risk	If at increased risk	If at increased risk

Data from <http://www.womenshealth.gov/screening-tests-and-vaccines/screening-tests-for-men/>.

B. Limits of Evidence

One important aspect of Task Force recommendations is that they can be, and often are, *noncommittal*. When evidence is lacking or inconsistent, the Task Force may conclude that neither a recommendation for nor a recommendation against a practice is justified. This has two important implications. First, judgment remains a vital element in clinical practice even in the EBM era. Although it may be reasonable to recommend neither for nor against a practice in general, a given patient will either receive or not receive a service. At the individual level, even the failure to make a decision proves to be a decision. Consequently, many topics addressed by the Task Force revert to a process of dialogue and shared decision making between clinician and patient. Such decisions are influenced by individual priorities, preferences, and at times economics; practices not formally recommended may not be routinely covered by third-party payers.

The second implication of USPSTF's noncommittal approach is that "no evidence of benefit" is not the same as "evidence of no benefit." A practice that may ultimately prove to be of decisive benefit may not be recommended because the relevant evidence has not yet accrued (see Box 16-2). The same is true of a practice that may ultimately

prove to confer net harm. Practice must evolve in tandem with an evolving base of evidence.

C. Clinical Preventive Service Compliance

One of the important themes to develop recently in the field of clinical preventive service delivery is that compliance should not be measured for a given service, but rather for the "bundle of services" recommended for an individual based on age and gender. Several such "bundled metrics" have been proposed, based on Behavioral Risk Factor Surveillance System (BRFSS) data²¹ or computerized records.²² Such packaging of metrics (1) improves accountability, raising the bar for performance, and (2) directs the focus to underserved patients, because the metric only improves if most patients receive all services. For this reason, a packaged measure of up-to-date preventive services has recently been added to the *Healthy People 2020* indicators.²¹

STAYING CURRENT

The USPSTF offers many ways in which providers can stay current and access recommendations at the point of care. These include a pocket guide to the preventive services, an

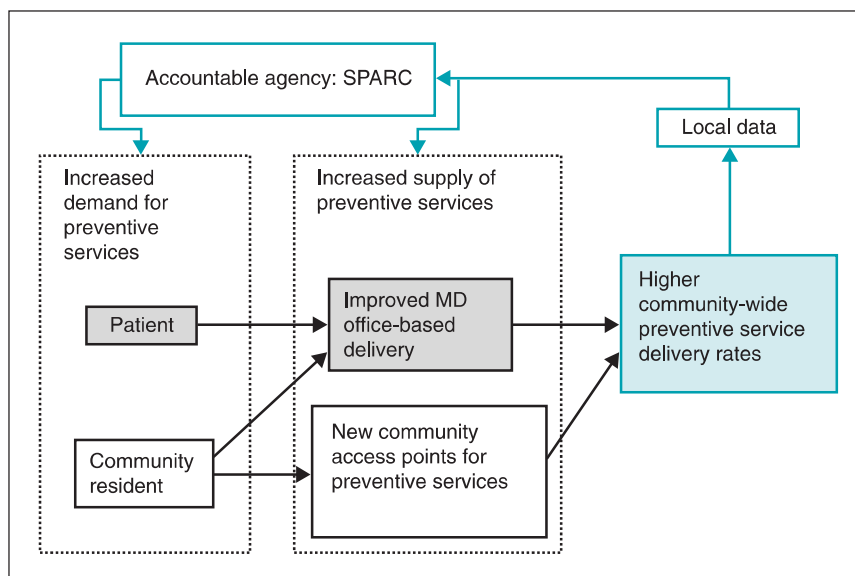


Figure 18-1 SPARC model. Sickness Prevention Achieved through Regional Collaboration (SPARC) for delivery of preventive services. (From Shenson D, Benson W, Harris AC: *Prev Chronic Dis* 15:I-8, 2008.)

electronic preventive services selector based on age and gender of patients, and a subscription to e-mail updates from the Task Force.²³

IV. COMMUNITY-BASED PREVENTION

Despite many efforts among primary care providers, preventive services continue to be underused, and disparities in access to screening persist. Since many preventive services are *portable*, they can be delivered in a community setting as well as in a physician's office.²⁴ The CDC recommends linking community and clinical strategies, particularly those that focus on underserved populations.^{25,26} Some states have experimented with combining linkage to community services, with enhanced reimbursement for preventive services and use of intensively trained clinical and process coaches.²⁷

One way to expand prevention outside the physician's office is **community collaboration**. Historically, preventive medicine has focused on the physician as the main point of delivering preventive services.²⁷ However, other models are possible. For example, in the Sickness Prevention Achieved through Regional Collaboration (SPARC) model, public health agencies, hospitals, and social service organizations collaborate to integrate preventive services into other community events, such as polling stations on election day or the delivery of meals on wheels (Fig. 18-1). This approach has been used successfully to increase rates of vaccination for influenza, pneumococcus, hepatitis B, and tetanus, as well as to increase screening for colorectal cancer and mammography.²⁸ This model encourages accountability at the community level for delivery of preventive services. Although there is little downside to increasing the use of vaccinations, community collaboration also is not without challenges: The increase of screening rates through such programs likely carries the same problems of overuse and misuse as can occur through a physician's office (see Chapter 16).

V. SUMMARY

The U.S. Preventive Services Task Force follows a rigorous process to assess the benefits and harm of delivering preventive services to asymptomatic individuals. Five letter grades summarize the evidence for net benefits or harm for services, including chemoprevention, counseling, and screening:

- A—High certainty the service is beneficial.
- B—Moderate certainty service is beneficial.
- C—At least moderate certainty that net benefit is small.
- D—At least moderate certainty of no net benefit or net harm.
- I—Evidence is lacking or conflicting.

In clinical practice, screening tests are underused, overused, and misused. Considerable clinical judgment is required in the delivery of many clinical preventive services for which evidence remains equivocal. Providers need to deliver all recommended services consistently. For services with lower grades, clinicians should engage patients in meaningful conversations about the evidence and their risk preferences. This will likely require major restructuring of care delivery and innovative models of community-based prevention.

References

- Katz DL: PSA: please stop asking (for trouble), *Huffington Post*, 2011. http://www.huffingtonpost.com/david-katz-md/psa-testing_b_1000852.html.
- US Preventive Services Task Force: *Procedure manual*, AHRQ Pub No 08-05118-EF, 2008, Agency for Healthcare Research and Quality.
- US Preventive Services Task Force: *Methods and process*. <http://www.uspreventiveservicestaskforce.org/methods.htm> on 1/2/2011.
- Guirguis-Blake J: Current processes of the U.S. Preventive Services Task Force: refining evidence-based recommendation development. *Ann Intern Med* 147:117–121, 2007.

5. Barton MB, Miller T, Wolff T, et al: How to read the new recommendation statement: methods update from the U.S. Preventive Services Task Force. *Ann Intern Med* 147:123–127, 2007.
6. Petitti D, Teutsch SM, Barton MB, et al: Update on the methods of the U.S. Preventive Services Task Force: insufficient evidence. *Ann Intern Med* 150:199–205, 2009.
7. Russell LB: Preventing chronic disease: an important investment, but don't count on cost savings. *Health Affairs* 28:42–45, 2009.
8. Woolf SH, Husten CG, Lewin LS, et al: The economic argument for disease prevention: distinguishing between value and savings. Partnership for Prevention. <http://www.prevent.org/data/files/initiatives/economicargumentfordiseaseprevention.pdf>.
9. Maciosek MV, Coffield AB, Edwards NM, et al: Priorities among effective clinical preventive services: results of a systematic review and analysis. *Am J Prev Med* 31:52–61, 2006.
10. National Commission on Prevention Priorities. *Preventive care: a national profile on use, disparities, and health benefits*, Washington, DC, 2007, Partnership for Prevention.
11. Maciosek MV, Coffield AB, Flottemesch TJ, et al: Greater use of preventive services in U.S. health care could save lives at little or no cost. *Health Affairs* 29:1656–1660, 2010.
12. McGlynn EA, Asch SM, Adams J, et al: The quality of care delivered to adults in the United States. *N Engl J Med* 348:2635–2645, 2003.
13. Lesser LI, Krist AH, Kamerow DB, et al: Comparison between U.S. Preventive Services Task Force recommendations and Medicare coverage. *Ann Fam Med* 9:44–49, 2011.
14. Crabtree BF: Delivery of clinical preventive services in family medicine offices. *Ann Fam Med* 3:430–431, 2005.
15. Yarnall KSH: Primary care: is there enough time for prevention? *Am J Public Health* 93:635–641, 2003.
16. Goodwin JS, Singh A, Reddy N, et al: Overuse of screening colonoscopy in the Medicare population. *Arch Intern Med* 171:1335–1343, 2011.
17. Bellizzi KM, Breslau ES, Burness A, et al: Prevalence of cancer screening in older, racially diverse adults: still screening after all these years. *Arch Intern Med* 171:2031, 2011.
18. Sultan S: Colorectal cancer screening in young patients with poor health and severe comorbidity. *Arch Intern Med* 166:2209–2214, 2006.
19. Chronic care model. http://www.improvingchroniccare.org/index.php?p=the_chronic_care_model&s=2.
20. Sheridan SL, Harris RP, Woolf SH: Shared decision making about screening and chemoprevention: a suggested approach from the U.S. Preventive Services Task Force. *Am J Prev Med* 26:56–66, 2004.
21. Shenson D, Bolen J, Adams M, et al: Receipt of preventive services by elders based on composite measures, 1997–2004. *Am J Prev Med* 32:11–18, 2007.
22. Vogt TM, Aickin M, Ahned F, et al: The prevention index: using technology to improve quality assessment. *Health Serv Res* 39:511–530, 2004.
23. <http://www.uspreventiveservicestaskforce.org/tfsublic.htm>
24. Ogden LL, Richard CL, Shenson D: Clinical preventive services for older adults: the interface between personal health care and public health services. *Am J Public Health* 102:419–425, 2012.
25. US Centers for Disease Control and Prevention: Enhancing use of clinical preventive services among older adults: closing the gap. http://www.cdc.gov/aging/pdf/Clinical_Preventive_Services_Closing_the_Gap_Report.pdf.
26. Community and Clinical Partnerships: Promoting preventive services for adults, 50–64.
27. Department of Vermont Health Access: Vermont Blueprint for Health. 2010 Annual Report, January 2011. http://hcr.vermont.gov/sites/hcr/files/final_annual_report_01_26_11.pdf.
28. Shenson D, Benson W, Harris AC: Expanding the delivery of clinical preventive services through community collaboration: the SPARC model. *Prev Chronic Dis* 15:1–8, 2008.

Select Readings

- US Preventive Services Task Force: *Procedure manual*, AHRQ Pub No 08-05118-EF, 2008.
- Wallace RB: Maxcy-Rosenau-Last: Public Health and Preventive Medicine: Screening.

Websites

- http://innovations.ahrq.gov/innovations_qualitytools.aspx [AHRQ Health Care: Innovations Exchange]
- <http://www.prevent.org/> [Partnership for Prevention]
- <http://www.uspreventiveservicestaskforce.org/> [USPSTF]
- <http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html>