



Commentary on the new *Guide to Clinical Preventive Services*

CATHERINE A. HENRY, MD, AND DAVID L. BRONSON, MD

THIS YEAR marks the publication of the long-awaited second edition of the US Preventive Services Task Force *Guide to Clinical Preventive Services*.¹ The 7 years since the first edition was published² have been filled with controversy about appropriate screening and prophylaxis for many diseases, including breast cancer, coronary artery disease, prostate cancer, and human immunodeficiency virus (HIV) infection.

See editorial, page 136

THE STRENGTHS AND WEAKNESSES OF THE GUIDELINES

The Task Force states that its goal was to provide “information on the proven effectiveness of preventive services in published clinical research.”¹ In so doing, it has done clinicians and the public a great service. However, many common practices have never been adequately tested or have inconsistent data. In general, the Task Force takes a narrow approach, rejecting interventions shown to be of no benefit (such as “screening” chest radiographs), and making no recommendations about those for which the literature is silent or in conflict.

■ From the Department of General Internal Medicine, The Cleveland Clinic Foundation.

Address reprint requests to C.A.H., Department of General Internal Medicine S70, The Cleveland Clinic Foundation, 9500 Euclid Ave., Cleveland, OH 44195.

The guidelines may be misinterpreted

We fear that this narrow approach will result in these recommendations being misinterpreted—and misused. The Task Force itself states that its guidelines “should not be interpreted as standards of care but rather as statements regarding the quality of the supporting scientific evidence.”¹ But if these are not standards, then physician habit, patient expectations, and fear of liability may continue to foster excessive reliance on testing. Indeed, it is easier to order a lipid panel for a 20-year-old than to counsel him or her about dietary fat or exercise; it is more comforting to a smoker to have a normal chest film than to be advised to quit smoking. On the other hand, we fear these guidelines will be misinterpreted by some as standards, with third-party payers using them to make choices for physicians by denying payment for some preventive services.

In trying to balance such contradictory forces, the Task Force faced a difficult challenge. The unresolved issues underscore the need for continued research into the value and effectiveness of preventive services.

The need for risk stratification

In a world of limited health care resources, physicians will be increasingly asked to prove the services they provide actually improve patient outcomes. Perhaps the most important accomplishment of the Task Force guidelines is to reinforce two overriding messages: that interventions need to be tailored to individual patients’ risks (even though performing a careful risk assessment may be time-consuming) and that few screening tests have been clearly shown to benefit persons not at high risk.

TABLE 1
SCREENING TESTS RECOMMENDED
BY THE US PREVENTIVE SERVICES TASK FORCE FOR ADULTS AT NORMAL RISK

Test	Interval	Population*	Comments
Height and weight measurements	Periodic	All persons	
Blood pressure measurement	Every 2 years	All persons	Diet and exercise recommended for primary prevention
Nonfasting cholesterol measurement	Periodic, every 5 years	Men age 35 to 65 Women age 45 to 65 [†]	Low-fat diet recommended for primary prevention
Mammography (with or without clinical breast examination)	Every 1 to 2 years	Women age 50 to 69 [‡]	
Colon cancer screening	Fecal occult blood testing annually; sigmoidoscopy every 3 to 5 years	All persons older than age 50	
Papanicolaou smear	At least every 3 years	All sexually active women	Omit if patient has hysterectomy for reasons other than dysplasia or cervical cancer
Alcoholism screening	Periodic	All persons	CAGE or AUDIT questionnaires recommended
Chlamydia screening	With each pelvic examination	Sexually active female adolescents	

*Persons at high risk would be screened more often, or with different tests (see text)

[†]We would screen all men ages 25 to 70 and all women ages 35 to 70

[‡]We would also perform a clinical breast examination for all women ages 40 and older

SCREENING RECOMMENDATIONS

This section and *Tables 1* and *2* summarize the new Task Force recommendations for screening for the general adult population, emphasizing areas of controversy or uncertainty and changes from previous recommendations. Where we disagree with the Task Force, we give our opinions and share our approach.

The following recommendations apply to persons not known to be at high risk for the diseases in question. Most screening tests are modified, either in type or frequency, when additional risk factors are identified. The needs of all high-risk populations are beyond the scope of this paper.

Hyperlipidemia

Task Force recommendations. The Task Force recommends measuring the nonfasting total serum cholesterol level in all men ages 35 to 65 and in all women ages 45 to 65, on a “periodic” basis—the

optimal interval being unknown. For persons not at high risk for coronary artery disease, there is insufficient evidence to recommend including or not including triglyceride or high-density lipoprotein cholesterol (HDL-C) measurements in initial screening.

Although the value of detecting hyperlipidemia is not in dispute, the optimal age at which to start is unclear. The American College of Physicians (ACP) recently recommended not screening normal men younger than 35 years, women younger than 45 years, or persons older than 75 years. Additionally, the ACP recommends total cholesterol screening as “appropriate, but not mandatory” for the normal populations at risk.³ These recommendations are bound to stir controversy.⁴

Both the Task Force and ACP recommendations substantially conflict with those of the National Cholesterol Education Program (NCEP), which recommends measuring nonfasting total cholesterol and HDL-C levels every 5 years in all persons older

than age 20.⁵ The Task Force maintains that counseling to reduce dietary fat in younger people is more cost-effective, and reserves screening for age groups in which the risk of coronary artery disease is higher and the benefits of treating hyperlipidemia are more clear.

Authors' recommendations. The Task Force recommendations are too narrow and miss the opportunity to intervene at a younger age to prevent coronary artery disease. The NCEP guidelines are considerably more aggressive. We take a middle position and recommend nonfasting cholesterol measurements beginning at age 25 in men and 35 in women and continuing periodically until age 70.

Various factors, such as family history, comorbid disease, and patient preference, modify the testing needed. Patients at higher risk (because of family history, nonlipid risk factors, or a nonfasting cholesterol level greater than 200 mg/dL) need a fasting lipid profile to further define risk and need for intervention.

Breast cancer

Task Force recommendations. The Task Force recommends performing mammography (with or without clinical breast examination) every 1 to 2 years for women ages 50 to 69, and does not recommend teaching breast self-examination.

There has been great debate whether to screen average-risk women ages 40 to 49. Available evidence fails to support the efficacy of clinical breast examination alone in this age group, and the data conflict for screening mammography. The same holds true for women ages 70 to 74, and there is no evidence that mammography benefits women older than age 75—hence the recommendation to limit screening to women ages 50 to 69. Although a few women will eventually benefit from screening before age 50, the evidence does not clearly support a policy of screening women this young.

The Task Force recommendations regarding clinical breast examination depart from those of the Agency for Health Care Policy and Research, which recommends clinical breast examination before mammography to determine whether a screening or diagnostic mammogram is in order.⁶ The Task Force appears to have based its recommendations on the fact that most of the available evidence concerns mammography alone or combined with a clinical breast examination, and that the effectiveness of clinical breast examination has not been evaluated directly.

TABLE 2
TESTS THE US PREVENTIVE SERVICES TASK FORCE RECOMMENDS NOT BE PERFORMED FOR THE GENERAL POPULATION

Electrocardiography
Treadmill exercise test
Auscultation for carotid bruits
Carotid ultrasonography
Digital rectal examination*
Prostate-specific antigen testing*
Transrectal ultrasonography
Chest radiography
Sputum cytology
Pelvic ultrasonography
CA-125 antigen testing
Pelvic examination for ovarian cancer
Urine cytology
Thyroid examination
Thyroid ultrasonography
Thyroid function tests
Hepatitis B screening
Herpes simplex screening

*We would leave these to the discretion of the physician and patient (see text)

Authors' recommendations. We were disappointed that the Task Force did not recommend clinical breast examination, periodically in women older than age 40 or at the time of mammography. Our clinical experience suggests that breast examination detects significant lesions not seen on mammography often enough to justify the time it takes. It also affords an opportunity to teach breast self-examination, an unproven practice but one that may increase patient awareness of breast cancer and encourage periodic screening with mammography. Therefore, we agree with the guidelines for mammography, but would add periodic breast examination beginning at age 40 and annually after age 50.

Colorectal cancer

Task Force recommendations. Although uncertainty exists regarding the optimal method for colorectal cancer screening, the benefits of screening, even for average-risk persons, are no longer in doubt. The 1989 Task Force report did not recommend screening or not screening, but the 1996 report recommends annual fecal occult blood testing

or periodic sigmoidoscopy or both in patients age 50 and older. The optimal frequency of sigmoidoscopy is unclear: although most experts recommend every 3 to 5 years, one well-designed case-control study suggests patients with normal findings can wait 10 years.⁷

Authors' recommendations. We concur with this guideline. Since many physicians already provide regular colon cancer screening (on the recommendations of other organizations), this may not represent a substantial change in practice. Those physicians who have not performed screening, choosing to wait for more definitive survival outcome data, should choose a strategy (annual fecal occult testing, periodic sigmoidoscopy, or both) and stick with it.

Cervical cancer

The Papanicolaou ("Pap") smear is the prototype of successful cancer screening. Pap smears, a sensitive and specific screening test, can detect dysplasia and cervical cancer during the long, asymptomatic interval, leading to early, effective treatment. The use of this test has caused both cervical cancer incidence and death rates to plummet. Nevertheless, the optimal age to start and how often to perform Pap testing remain under discussion. The necessity of annual tests for women who are not at high risk has been called into question.

Task Force recommendations. The Task Force recommends Pap smears "at least" every 3 years in women who are or have been sexually active and who have a cervix, beginning at the onset of sexual activity (or age 18 if the sexual history is unreliable). Pap smears are not recommended for women who have had a hysterectomy for reasons other than cervical cancer (or precursors), or for women who have never been sexually active. Although the data are not clear, the Task Force also recommends considering stopping regular screening after age 65 in women who have had consistently normal tests.

Authors' recommendations. Many women fall outside the "not at high risk" category and may require screening more often than every 3 years. These include women with a history of previous abnormal smears, human papilloma virus infection, HIV infection, smoking, or multiple sexual partners. Further, many patients do not comply with current recommendations for annual screening, and, if told to come back in 3 years, may in fact go 5 years or more between tests. For truly low-risk, compliant patients, every 3 years is probably acceptable, but

these may be the minority in many practices, and annual screening may be more appropriate.

Prostate cancer

At the time of the original Task Force report, prostate-specific antigen (PSA) testing was relatively new, and no organization had recommended it as a standard screening test. Since then, the Food and Drug Administration has licensed it for screening, and the American Cancer Society, the American Urological Association, and the American College of Radiology have recommended annual testing beginning at age 50 (or earlier).

One difficulty in screening for prostate cancer is the extremely high prevalence of asymptomatic, latent cancers (about 30% in men older than 50 years). Available screening tests do not distinguish well between men who may die *with* prostate cancer and those who may die *of* prostate cancer. The distinction is critical, as treatment causes considerable morbidity.

Task Force recommendations. There is no evidence that prostate cancer screening by any method reduces morbidity or mortality rates. Therefore, in its second report, the Task Force continues to recommend not screening with digital rectal examination, PSA testing, or transrectal ultrasonography.

Authors' recommendations. Without a screening strategy that reliably discriminates between prostate cancers that will remain occult and those that will cause harm, it is difficult to recommend screening—or to discourage it either. Several clinical trials are now investigating whether early screening will reduce morbidity and mortality rates, but many will not yield answers for 10 or more years. Waiting for 10 years, while thousands of men die of prostate cancer and researchers make continued advances in its treatment, is the triumph of methodology over common sense.

We believe the Task Force should have at least remained neutral on screening. Physicians and patients should continue to discuss the controversy over prostate cancer screening and make individual decisions, as many men are willing to accept the risks associated with detecting cancers that would have remained clinically insignificant. For physicians who choose to recommend screening, PSA testing and digital rectal examination every 1 to 2 years beginning at age 50 (or at age 40 in African Americans) and stopping at age 70 is reasonable, although the effectiveness of this approach has yet to be shown.

TABLE 3
IMMUNIZATIONS RECOMMENDED
BY THE US PREVENTIVE SERVICES TASK FORCE FOR ADULTS AT NORMAL RISK

Immunization	Interval	Population	Comments
Tetanus-diphtheria booster	Every 10 years	All persons	Complete primary series if not done
Hepatitis B vaccine	Three-dose series (0, 1, and 6 months)	All young adults	
Varicella vaccine	Two doses 4 to 8 weeks apart	Persons with no history of varicella or previous vaccination	Consider offering serologic testing before vaccination
Measles-mumps-rubella vaccine	Once	Persons born after 1956 lacking evidence of immunity to measles	Second dose recommended for young adults who did not receive one previously
Rubella vaccine	Once	Susceptible nonpregnant women	Consider offering vaccination without screening to nonpregnant women of childbearing age
Influenza vaccine	Annually	All persons older than age 65	Chronic medical conditions
Pneumococcal vaccine	Once	All persons older than age 65	Routine revaccination not recommended

Diabetes mellitus

Task Force recommendations. Although it seems logical that early detection and management of hyperglycemia would improve outcomes in non-insulin-dependent diabetes mellitus (NIDDM), there are no data to support this assumption. In addition, the encouraging results of the Diabetes Control and Complications Trial⁸ cannot necessarily be extrapolated to patients with NIDDM. Therefore, the Task Force does not make any recommendations about diabetes screening.

The ongoing UK Prospective Diabetes Study is addressing whether improved glucose control in early NIDDM leads to fewer microvascular complications.⁹ If so, this would lend credence to early detection.

Authors' recommendations. We measure the fasting plasma glucose level in patients who are obese or have a family history of NIDDM—if they request it—and counsel all patients about diet and physical activity.

Human immunodeficiency virus

Task Force recommendations. The Task Force does not recommend routine HIV screening for persons without specific risk factors (high-risk sexual behavior, intravenous drug use, homelessness, incar-

ceration, hemophilia). However, since self-reporting of high-risk behaviors is often poor, physicians practicing in high-risk areas may consider screening sexually active patients. Unfortunately, the definition of a “high-risk” area is imprecise, and the Task Force recommends contacting local public health authorities for guidance. The Task Force emphasizes the importance of informed consent and counseling before and after testing.

Appropriately, the Task Force report places more emphasis on avoiding high-risk behaviors than on testing.

Authors' recommendations. In practice, it is reasonable to test persons who request it, and to recommend testing to sexually active patients living in high-risk communities.

Chlamydia infection

Chlamydia trachomatis infection is the most common bacterial sexually transmitted disease, and up to 25% of infected men and 70% of infected women have no symptoms. Long-term morbidity rates (pelvic inflammatory disease, ectopic pregnancy, and infertility) are high, even in asymptomatic infections. Age is the strongest demographic predictive factor, and the prevalence is more than 5% among sexually active adolescent girls.

Task Force recommendations. The Task Force now recommends routine screening for *C trachomatis* in all sexually active adolescent girls, regardless of the presence or absence of other risk factors.

Authors' recommendations. This Task Force recommendation is appropriate, given the high burden of suffering.

VACCINATIONS

This section summarizes several key new Task Force recommendations for immunizing the general adult population. For a more complete adult vaccination schedule, see *Table 3*.

Hepatitis B vaccine

Task Force recommendations. The Task Force previously recommended hepatitis B vaccine only for persons at increased risk (ie, because of intravenous drug use, high-risk sexual behavior, health care work, hemophilia, or hemodialysis). As this vaccine is now included in the routine childhood immunization schedule, the Task Force recommends that all young adults not previously immunized receive the vaccine.

Authors' recommendation. We concur with the Task Force.

Varicella vaccine

Task Force recommendations. Varicella vaccine was not available in the United States at the time of the 1989 Task Force report. The current report recommends that adults with a negative or uncertain history of chicken pox receive the vaccine. Persons older than age 12 have a poorer immune response to this vaccine and require two doses 4 to 8 weeks apart. Little data exist regarding the efficacy of this vaccine beyond 10 years.

Immunizing all persons who may be at risk is likely to be the most effective strategy to prevent chicken pox. An alternative strategy is to obtain a varicella titer before giving the vaccine. This strategy may be more cost-effective, as most such adults are in fact immune. Loss to follow-up and false-positive tests will, however, reduce the number of persons protected.

Authors' recommendation. We prefer to test those who are likely to comply with follow-up and immunize those who may be noncompliant.

REFERENCES

1. **US Preventive Services Task Force.** Guide to clinical preventive services. Report of the US Preventive Services Task Force. 2nd edition. Baltimore: Williams and Wilkins, 1996.
2. **US Preventive Services Task Force.** Guide to clinical preventive services: an assessment of the effectiveness of 169 interventions. Report of the US Preventive Services Task Force. Baltimore: Williams and Wilkins, 1989.
3. **American College of Physicians.** Guidelines for using serum cholesterol, high-density lipoprotein cholesterol, and triglyceride levels as screening tests for preventing coronary heart disease in adults. *Ann Intern Med* 1996; **124**:515–517.
4. **LaRosa JC.** Cholesterol agnostics. *Ann Intern Med* 1996; **124**:505–508.
5. **National Cholesterol Education Program.** Second report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel II). *Circulation* 1994; **89**:1329–1445.
6. **Bassett LW, Hendrick RE, Bassford TL, et al.** Quality determinants of mammography. Clinical Practice Guideline No. 13. AHCPR Publication No 95-0632. Agency for Health Care Policy and Research, Public Health Service, US Department of Health and Human Services, October 1994.
7. **Selby JV, Friedman GD, Quesenberry CP Jr, Weiss NS.** A case-control study of screening sigmoidoscopy and mortality from colorectal cancer. *N Engl J Med* 1992; **326**:653–657.
8. **The Diabetes Control and Complications Research Group.** The effect of intensive treatment of diabetes on the development and regression of long-term complications in insulin-dependent diabetes mellitus. *N Engl J Med* 1993; **329**:977–986.
9. **UK Prospective Diabetes Study Group.** UK Prospective Diabetes Study. Overview of 6 years' therapy of type II diabetes: a progressive disease. *Diabetes* 1995; **44**:1249–1258.