

Priorities for America's Health: Capitalizing on Life-Saving, Cost-Effective Preventive Services

Preventive Care is front and center as health care delivery organizations, clinicians, medical groups, purchasers, and policy makers explore ways to improve the health of our nation and rein in rising health care costs. Which preventive care services have greater effects on health and which offer the most benefit per dollar invested? Which preventive services should we emphasize with our patients, and which ones should we be sure to include in our quality improvement efforts? Health care providers are striving to improve patient care effectively and efficiently, but they must balance competing demands on their time and resources – and they need answers to these important questions.

Partnership for Prevention sponsored a landmark study ranking the health impact and cost effectiveness of 25 clinical preventive services recommended by two nationally recognized sources: the U.S. Preventive Services Task Force (USPSTF) and the Advisory Committee on Immunization Practices (ACIP). The resulting rankings—presented in this guide—offer important information health care providers can use to select which preventive services to emphasize in their system.

Highest Ranking Preventive Services

Discuss daily aspirin use — men 40+, women 50+

Childhood immunizations

Smoking cessation advice and help to quit — adults

Colorectal cancer screening — adults 50+

Hypertension screening and treatment — adults

Influenza immunization — adults 50+

Pneumococcal immunizations — adults 65+

Problem drinking screening and counseling — adults

Vision screening — adults 65+

Cervical cancer screening — women

Cholesterol screening and treatment — men 35+, women 45+

Breast cancer screening — women 40+

Chlamydia screening — women under 25

Discuss calcium supplementation — women

Vision screening — children

Services in the same group were tied in the ranking.

Services in **bold** have the lowest utilization rates nationally ($\leq 50\%$).

See page 5 for the complete rankings.



Invest in High-Impact, High-Value Preventive Services

The study, summarized in this guide, identified:

- Preventive services that are most valuable,
- Highest-value preventive services that are most under-utilized, and
- Preventive services that would provide the most gains in health if utilization rates were increased.

The study's website, www.prevent.org/ncpp, provides the published articles about this study and additional information about each clinical preventive service.

The Findings In this Guide May Help You:

- Select the highest ranked services that fit the needs of your individual patients and your overall patient population.
- Choose which preventive services most deserve commitment of your time and practice resources.
- Create an organizational culture of decision-making that supports the use of evidence-based information and data when selecting program areas and committing resources to a specific quality improvement effort.
- Identify high-value preventive services that are also aligned with the goals of regulatory agencies, your insurers and patients' employers.
- Take full advantage of your practice systems (e.g., standing orders) and technology (e.g., patient registries).



Did You Know...

...That the study's authors:

- Evaluated only those clinical preventive services **proven to be effective**
- Conducted a **thorough review** of the scientific literature
- Used a consistent approach to evaluating each service, so as to ensure **comparability** among them



Understanding the Tables

Clinical preventive services in this ranking are immunizations, screening tests, counseling, and preventive medications offered by health care providers in clinical settings. The scope included 21 services recommended by the U.S. Preventive Services Task Force for asymptomatic people and for people at high-risk of coronary heart disease. It also included 4 recommendations of the Advisory Committee on Immunization Practices: 3 for adults and 1 for a defined series of childhood immunizations.

The health benefits of preventive services were defined as **clinically preventable burden (CPB)** or the disease, injury and premature death that would be prevented if the service were delivered to all people in the target population. CPB was measured in quality adjusted life years or **QALYs**, a measure of the effects of mortality and morbidity.

The economic value of services was measured as **cost effectiveness (CE)**, which compares the net cost of a service to its health benefits. Net cost was defined as the cost of the service minus the cost avoided because of the service. CE provided a standard measure for comparing services' return on investment.

A scoring system was used to group services with similar value in order to make distinctions among services without overstating the precision of the CPB and CE estimates.

Services that produce the most health benefits received the highest CPB score of 5. Services that are the most cost effective received the highest CE score of 5. Scores for CPB and CE were then added to give each service a possible score between 10 and 2.

10 = highest impact, highest value among these evidence-based services

2 = lowest impact, least cost effective among these evidence-based preventive services.



Want More Detail...

... Access data about disparities in health and use of specific services at www.prevent.org/ncpp. Go to "Rankings of Preventive Services" and click on a service for more information.

You can also find additional material about a project designed to promote use of the rankings at www.achp.org, the website for the Alliance of Community Health Plans.



How to Interpret the Scores

| Score | CPB Range: QALYs saved | CE Range: \$/QALY saved |
|-------|------------------------|-------------------------|
| 5 | 360,000 | Cost-Saving |
| 4 | 185,000 - 360,000 | \$0 - \$14,000 |
| 3 | 40,000 - 185,000 | \$14,000 - \$35,000 |
| 2 | 15,000 - 40,000 | \$35,000 - \$165,000 |
| 1 | 15,000 | \$165,000 - \$450,000 |

CPB, clinically preventable burden; CE, cost effectiveness; QALY, quality adjusted life year
QALYs saved are U.S. only and were measured over the lifetime of each service's target
population; CE estimates were discounted to present value; CPB estimates were not

ABOUT THE STUDY

Partnership for Prevention is a national membership organization dedicated to building evidence for sound disease prevention and health promotion policies and practices.

To guide the study, Partnership convened the **National Commission on Prevention Priorities**, chaired by former U.S. Surgeon General Dr. David Satcher and consisting of experts from health insurance plans, an employer group, academia, and governmental health agencies.

Partnership collaborated with researchers at **HealthPartners Research Foundation** in Minneapolis for all analytical work (hprf.org).

The federal **Centers for Disease Control and Prevention** (CDC) and **Agency for Healthcare Research and Quality** (AHRQ) sponsored the study.

For More Information

- These findings were published in the July 2006 issue of the *American Journal of Preventive Medicine*.
- Access the published articles, learn more about the study methods, and find data on disparities in health outcomes and use of preventive services by visiting prevent.org/ncpp.

Eating a healthy diet and being physically active lead to improved health and lower healthcare costs. So where are these issues in the rankings?

The U.S. Preventive Services Task Force (USPSTF) did not recommend medical counseling to address physical activity and diet among the general population of adults or children because the research evidence compiled to date is not sufficient to issue strong evidence-based recommendations.

The USPSTF did recommend intensive counseling and referral to specialists (as opposed to brief counseling from a primary care provider) for selected groups: adult patients who are obese (see obesity screening) and adult patients with high cholesterol and other diet-related diseases such as diabetes (see diet counseling). Obesity screening and diet counseling were not among the services in this study offering the greatest health benefits due to low patient compliance with recommended behavior changes, among other issues.



Table 1: Highest Priority Clinical Preventive Services

| Services | Description | CPB | CE | Total | What You Should Know |
|--|---|-----|----|-------|--|
| Aspirin Chemoprophylaxis | Discuss daily aspirin use with men 50+, postmenopausal women, and others at increased risk for heart disease for the prevention of cardiovascular events | 5 | 5 | 10 | Although aspirin is cheap and accessible, very few adults are likely using aspirin consistently and need guidance from a healthcare provider to start and maintain an aspirin regimen. This service is cost saving. |
| Childhood Immunization Series | Immunize children: Diphtheria, tetanus, pertussis, measles, mumps, rubella, inactivated polio virus, Haemophilus influenzae type b, Hepatitis B, varicella, pneumococcal conjugate, influenza | 5 | 5 | 10 | The childhood immunization series is highly effective and cost saving. High immunization rates among U.S. kids may reduce parental absenteeism. |
| Tobacco Use Screening and Brief Intervention | Screen adults for tobacco use, provide brief counseling and offer pharmacotherapy | 5 | 5 | 10 | 20% of adults smoke ¹ and 1/3 of smokers will die prematurely as a result. ² Smoking results in more than \$100 billion annually in medical costs. ³ This service is cost saving. An effective health plan should cover smoking cessation counseling and therapies — including over-the-counter cessation aids — and offer telephone quit lines. |
| Colorectal Cancer Screening | Screen adults 50+ years routinely with FOBT, sigmoidoscopy or colonoscopy | 4 | 4 | 8 | 19,000 deaths could be prevented annually if all people 50+ were periodically screened for colorectal cancer. ⁴ Currently only about 1/3 of adults 50+ are up-to-date on screening. ⁵ |
| Hypertension Screening | Measure blood pressure routinely in all adults and treat with anti-hypertensive medication to prevent the incidence of cardiovascular disease | 5 | 3 | 8 | 30% of Americans age 20+ have hypertension; nearly 50% develop hypertension before age 65. ⁶ Hypertension and its complications result in over \$100 billion annually in medical costs. ⁷ Yet only 1 in 3 hypertension cases is controlled. ⁸ The maximum benefit of screening is gained only through long-term use of therapies. Generics for major drugs are available. |
| Influenza Immunization | Immunize adults aged 50+ against influenza annually | 4 | 4 | 8 | The flu is more than a bad cold — it may also result in hospitalization or death. The single best way to protect against getting the flu is to get a flu shot each fall. Among working-age adults, both injected and nasal flu vaccinations reduce absenteeism and presenteeism. ^{9,10} |
| Pneumococcal Immunization | Immunize adults aged 65+ against pneumococcal disease with one dose for most in this population | 3 | 5 | 8 | This cost-saving vaccine prevents a bacterial form of pneumonia that causes hospitalization and death. Emerging drug-resistant strains underscore the importance of prevention through vaccination. |
| Problem Drinking Screening and Brief Counseling | Screen adults routinely to identify those whose alcohol use places them at increased risk and provide brief counseling with follow-up | 4 | 4 | 8 | 15% of adults report alcohol use that is consistent with binge drinking. Binge drinking is more common at younger ages but is still reported in 12% of those age 45-54. ¹ Many people are unaware that their alcohol use is excessive and will change their behavior when their doctor points it out. |

Services in boldface are those with scores of 6+ for which data indicate that delivery to the U.S. population eligible for the services is likely ≤ 50%.



Table 1: Highest Priority Clinical Preventive Services *continued*

| Services | Description | CPB | CE | Total | What You Should Know |
|--------------------------------|---|-----|----|-------|--|
| Vision screening—Adults | Screen adults aged 65+ routinely for diminished visual acuity with the Snellen visual acuity chart | 3 | 5 | 8 | About 25% of older people wear inappropriate visual correction. ¹¹ Appropriate vision correction can reduce hip fractures from falls ¹² and improve quality of life. |
| Cervical Cancer Screening | Screen women who have been sexually active and have a cervix within 3 years of onset of sexual activity or age 21 routinely with cervical cytology (Pap smears) | 4 | 3 | 7 | Pap smear screening is highly effective and has been credited with a 30-year decline in cervical cancer mortality. |
| Cholesterol Screening | Screen routinely for lipid disorders among men aged 35+ and women aged 45+ and treat with lipid-lowering drugs to prevent the incidence of cardiovascular disease | 5 | 2 | 7 | 21% of adults age 35+ have high cholesterol. Of these, most will develop high cholesterol before age 55. ¹⁶ One out of 4 adults who do not control their high cholesterol will have a cholesterol-attributable heart attack. One out of 3 will die of cholesterol-attributable coronary heart disease. ¹³ Long-term use of therapies is necessary to achieve maximum benefits of screening |
| Breast Cancer Screening | Screen women aged 50+ routinely with mammography alone or with clinical breast examination and discuss screening with women aged 40-49 to choose an age to initiate screening | 4 | 2 | 6 | Mammography currently prevents 12,000 deaths from breast cancer annually. ¹⁴ About 1 in 4 women over age 40 are not getting screened at recommended intervals. ¹⁵ |
| Chlamydia Screening | Screen sexually active women under age 25 routinely | 2 | 4 | 6 | Chlamydia is the most common bacterial sexually transmitted disease in the U.S., with 3 million new cases annually. ¹⁶ About 7,500 cases of infertility could be prevented annually if all at-risk women under age 25 were routinely screened for chlamydia. ¹⁷ |
| Calcium Chemoprophylaxis | Counsel adolescent and adult women to use calcium supplements to prevent fractures | 3 | 3 | 6 | Lifelong use of calcium prevents hip fractures. Few women use calcium supplements consistently and need regular physician guidance to encourage lifelong use. |
| Vision Screening—Children | Screen children less than age 5 routinely to detect amblyopia, strabismus, and defects in visual acuity | 2 | 4 | 6 | About 3% of preschoolers have visual impairments, ¹⁸ a portion of which would remain undetected at school age without screening. Screening and treatment are inexpensive and improve quality of life. |

Services in boldface are those with scores of 6+ for which data indicate that delivery to the U.S. population eligible for the services is likely ≤ 50%.



Table 2: Other Effective Clinical Preventive Services

| Services | Description | CPB | CE | Total |
|-----------------------------------|--|-----|----|-------|
| Folic Acid Chemoprophylaxis | Counsel women of childbearing age routinely on the use of folic acid supplements to prevent birth defects | 2 | 3 | 5 |
| Obesity Screening | Screen all adult patients routinely for obesity and offer obese patients high-intensity counseling about diet, exercise or both together with behavioral interventions for at least one year | 3 | 2 | 5 |
| Depression Screening | Screen adults for depression in clinical practices that have systems in place to assure accurate diagnosis, treatment and follow-up | 3 | 1 | 4 |
| Hearing Screening | Screen for hearing impairment in adults aged 65+ and make referrals to specialists | 2 | 2 | 4 |
| Injury Prevention Counseling | Assess the safety practices of parents of children less than age 5 and provide counseling on child safety seats, window/stair guards, pool fence, poison control, hot water temperature and bicycle helmets | 1 | 3 | 4 |
| Osteoporosis Screening | Screen women aged 65+ and women aged 60+ at increased risk routinely for osteoporosis and discuss the benefits and harms of treatment options | 2 | 2 | 4 |
| Cholesterol Screening — High Risk | Screen men aged 20 to 35 and women aged 20 to 45 routinely for lipid disorders if they have other risk factors for coronary heart disease and treat with lipid-lowering drugs to prevent the incidence of cardiovascular disease | 1 | 1 | 2 |
| Diabetes Screening | Screen for diabetes in adults with high cholesterol or hypertension and treat with a goal of lowering levels below conventional target values | 1 | 1 | 2 |
| Diet Counseling | Offer intensive behavioral dietary counseling to adult patients with hyperlipidemia and other known risk factors for cardiovascular and diet-related chronic disease | 1 | 1 | 2 |
| Tetanus-diphtheria Booster | Immunize adults every 10 years | 1 | 1 | 2 |

Things to Know About 4 of These Services

Obesity screening: Patients must spend significant time on this intervention. If the monetary value of patients’ time were ignored, this high-intensity intervention may be very cost-effective.

Injury prevention counseling is aimed at a relatively small target population, which affects its overall health impact assessment. This is a cost-effective service, however, and would be a top priority in a list aimed solely at children.

Cholesterol screening in younger adults with risk factors for coronary heart disease also aimed at a relatively small target population. Cholesterol screening for the general, asymptomatic population received a higher score in this ranking.

Diabetes screening: Consistent with the evidence review of the US Preventive Services Task Force (USPSTF), the scores for this service reflect the marginal benefits of achieving lower blood pressure targets in people with diabetes (diastolic blood pressure < 80 mm Hg) rather than the conventional standard for all patients (≤90 mm Hg). All people should be screened for hypertension and high cholesterol and treated appropriately. The USPSTF did not find that screening/early detection of diabetes in the general population provided greater benefits than did clinical detection of diabetes. The exception is diabetes screening/early detection targeted to people with high blood pressure or high cholesterol, which can help healthcare providers more tightly control patients’ cardiovascular risks.

Go to prevent.org/ncpp for more information about all the services in the ranking...



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