

## Introduction

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In 2006, Partnership for Prevention® and HealthPartners Research Foundation, under the guidance of the National Commission on Prevention Priorities, published a study<sup>1</sup> that ranked 25 evidence-based clinical preventive services recommended by the U.S. Preventive Services Task Force (USPSTF) and Advisory Committee on Immunization Practices (ACIP).<sup>2</sup> Services were ranked based on each service's health benefits and economic value.

**Clinical preventive services** are immunizations, disease screenings, and behavioral counseling interventions delivered to individuals in clinical settings for the purpose of preventing disease or initiating early treatment for conditions that are not yet apparent.

The study identified clinical preventive services that:

- Are most valuable, i.e., that could prevent the greatest amount of disease and premature death in the U.S. population and that are most cost-effective, and
- Would prevent the most disease and premature death in the U.S. population were utilization rates increased from current utilization rates up to 90%.

**How Preventive Services Were Ranked:** The health benefits of preventive services were defined as **clinically preventable burden (CPB)**, or the disease, injury or premature death that would be prevented if the service were delivered to all people in the target population. The economic value of preventive services was measured as **cost effectiveness (CE)**, which compares the net cost of a service to its health benefits. CE provided a standard measure for comparing services' return on investment. Services that produce the most health benefits received the highest CPB score of 5. Services that were most cost effective received the highest CE score of 5. Scores for CPB and CE were then added to give each service a possible total score between 10 and 2.

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<sup>1</sup> Maciosek MV, Coffield AB, Edwards NM, Goodman MJ, Flottemesch TJ, Solberg LI. Priorities among effective clinical preventive services: results of a systematic review and analysis. *Am J Prev Med* 2006; 31(1):52-61.

<sup>2</sup> Only evidence-based services as determined by the USPSTF or ACIP were included in the rankings (see related side bar on page 11). Services delivered by specialists were not included unless initiated by a primary care clinician.

Rankings of Clinical Preventive Services for the U.S. Population	CPB	CE	Total
Discuss daily aspirin use—men 40+, women 50+	5	5	10
Childhood immunizations	5	5	
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	8
Hypertension screening and treatment—adults 18+	5	3	
Influenza immunization—adults 50+	4	4	
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	6
Chlamydia screening—sexually active women under 25	2	4	
Discuss calcium supplementation—women	3	3	
Vision screening—preschool children	2	4	
Folic acid chemoprophylaxis—women of childbearing age	2	3	5
Obesity screening—adults	3	2	
Depression screening—adults	3	1	4
Hearing screening—adults 65+	2	2	
Injury prevention counseling—parents of children 0-4	1	3	
Osteoporosis screening—women 65+	2	2	
Cholesterol screening—men < 35, women < 45 at high risk	1	1	2
Diabetes screening—adults at risk	1	1	
Diet counseling—adults at risk	1	1	
Tetanus-diphtheria booster—adults	1	1	
<p><b>Notes:</b>  Services with the same total score tied in the rankings:  10 = highest impact, most cost effective among these evidence-based preventive services  2 = lowest impact, least cost effective among these evidence-based preventive services</p> <p>This is a ranking of what doctors can do in their offices to prevent disease and promote health, not what people can do in their personal lives, such as increasing exercise levels or eating a healthier diet.</p> <p>Go to <a href="http://www.prevent.org/ncpp">www.prevent.org/ncpp</a> for complete information.  See the appendix to this report for more complete descriptions of all 25 services.</p>			

## What Works in Preventive Care?

The U.S. Preventive Services Task Force, established by the federal government in 1984, determines the effectiveness of a wide range of clinical preventive services initiated by primary care clinicians based on a rigorous, evidence-based assessment.

[www.preventiveservices.ahrq.gov](http://www.preventiveservices.ahrq.gov)

The Advisory Committee on Immunization Practices, whose members are selected by the Secretary of the U.S. Department of Health and Human Services, evaluates the clinical appropriateness of immunizations.

[www.cdc.gov/vaccines/recs/acip](http://www.cdc.gov/vaccines/recs/acip)

This report is a follow-up to the 2006 rankings. The NCPP aims to bring attention to those high-impact, cost-effective preventive services that have the lowest utilization rates and the greatest potential to save lives if utilization rates improved. Thus, this report

- Documents the use of preventive care across the United States;
- Estimates the health benefits for the U.S. population of increasing the use of preventive services from current utilization rates to 90 percent;<sup>3</sup>
- Quantifies disparities in use of preventive care by comparing use of services by racial and ethnic groups to the white, non-Hispanic population;
- Gives special attention to cancer screenings by estimating the lives that would be saved if breast, cervical and colorectal cancer screening rates increased from current screening rates to 90 percent among selected racial and ethnic groups.<sup>4</sup>

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<sup>3</sup> Lives saved were estimated using models previously developed to rank clinical preventive services. See Maciosek MV, Edwards NM, Coffield AB, Flottemesch TJ, Nelson WW, Goodman MJ, Rickey DA, Butani AB, Solberg LI. Priorities among effective clinical preventive services: methods. *Am J Prev Med* 2006; 31(1):90-96.

<sup>4</sup> We further developed our cancer models to estimate lives saved by racial/ethnic group. We are in the process of further developing our other models to provide these estimates for additional preventive services.

## Prevention: A Key Indicator of Quality

There is ample evidence to show that increasing use of proven preventive services will result in fewer people suffering from diseases that could have been prevented or treated with less pain at early stages. Also, preventive services are often more cost effective—meaning they provide better value for the dollar—than waiting to treat diseases, and some preventive services even save more money than they cost. Underuse of effective preventive care is a wasted opportunity. The U.S. health care system suffers a quality deficit in part because too many patients do not get the effective preventive care they need when they need it.

**How Cost-Effective is Evidence-Based Preventive Care?** The NCPP’s analysis of the cost effectiveness of 25 recommended preventive services demonstrates that for a relatively small net cost, most of these services produce valuable health benefits. Eighteen of the 25 preventive services evaluated by the NCPP cost \$50,000 or less per quality-adjusted life year (QALY) and 10 of these cost less than \$15,000 per QALY, all well within the range of what is considered a favorable cost-effectiveness ratio. (A QALY is a measure that accounts for both years of life gained and disease and injury avoided.<sup>5</sup>) Six preventive services—advising at-risk adults about regular aspirin use, counseling smokers to help them quit, immunizing children, screening/counseling adults about alcohol misuse, vision screening among older adults, and the pneumococcal immunization for older adults—all save more money than they cost.

### Measuring Cost Effectiveness

Cost effectiveness (CE) measures economic value, or the cost of producing a unit of health, such as a quality-adjusted life year or QALY. A QALY is a measure that accounts for both mortality (years of life lost) and morbidity (quality of life lost due to days lived with sickness).

$$\text{CE} = \frac{\$s \text{ spent} - \$s \text{ saved}}{\text{QALYs saved}}$$

The fewer dollars spent per QALY, the more cost effective the service. If the dollars saved are greater than the dollars spent, the service is cost saving.

By itself, a service’s CE ratio does not indicate whether or not the service is cost effective because there is no specific figure that separates services that are sufficiently cost effective from those that are not. CE ratios must be compared to one another to see which services require the fewest dollars to produce the same unit of health. However, as a general rule of thumb, health care services are considered “cost effective” at less than \$50,000 per QALY.

<sup>5</sup> A **quality-adjusted life year (QALY)** is a year of life adjusted for its quality. Saving one QALY through prevention is equivalent to extending a life for 1 year in perfect health.