Preventive Care:

A National Profile on Use, Disparities, and Health Benefits

Partnership for Prevention®

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August 7, 2007

Dear Colleague:

This report brings attention to the importance of high-value preventive care. This type of care includes immunizations, disease screenings, and counseling services delivered by health care providers—services that produce the greatest health benefits and offer the best cost value based on extensive research to determine the best evidence for what works in prevention. This report documents the shortfalls in use of these health care services and the life-and-death consequences. It also features the mortality impact of under-use of cancer screening services for racial and ethnic populations. This report's singular focus on prevention and health impact data make it unique.

The sad fact is that high-value preventive care is widely underused, and as a result there are millions of people whose lives are shortened or who are unnecessarily sick, who are less productive than they would be otherwise, and who incur expensive medical costs. Closing the gaps in the use of just five preventive services would save 100,000 lives annually in the United States.

For example, increasing the number of adults who use aspirin regularly to prevent heart disease would save 45,000 lives annually. Increasing the percentage of smokers who have had a doctor offer assistance to help them quit would save 42,000 lives annually. These two preventive measures have been recommended by experts for years. Yet the majority of people who need to use aspirin regularly for prevention purposes are not using it, and the majority of smokers who need medical assistance to quit are not getting that help from their doctors. Any effort to reform the nation's health system should have greater use of these and other evidence-based preventive services as a front-and-center goal.

I urge you to read and discuss this report with your colleagues, bring it to the attention of policymakers and those who influence them, and do your part to implement the policies and practices necessary to make improvements.

Sincerely,

Eduardo Sanchez, MD, MPH
Chair, National Commission on Prevention Priorities

Acknowledgments

The National Commission on Prevention Priorities (NCPP) is convened by Partnership for Prevention® and guides the work found in this report. The NCPP aims to give decision-makers (1) evidence-based information about which preventive services offer the greatest health impact and are most cost effective, (2) guidance about where improving delivery rates will offer the greatest returns on investment, and (3) a resource for building demand for a prevention-focused health care system.

Partnership for Prevention formed the NCPP in 2003 to guide a study ranking the relative value of 25 clinical preventive services for the U.S. population. Former Surgeon General David Satcher chaired the NCPP from 2003 until the rankings were published in the *American Journal of Preventive Medicine* in 2006. Dr. Eduardo Sanchez began as chair of the NCPP in 2007 to guide continued work on prevention priorities, including analyses of priorities for specific population groups. The NCPP's website is www.prevent.org/NCPP.

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Report Highlights

This report demonstrates that there is significant underuse of effective preventive care in the United States, resulting in lost lives, unnecessary poor health, and inefficient use of health care dollars. All of the services examined in this report are extremely cost effective: they all provide an excellent return on investment. It is a national imperative to make these and other cost-effective preventive services affordable and accessible for all Americans.

Following up on the National Commission on Prevention Priorities' rankings that demonstrate the most valuable preventive services for the U.S. population, 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;
- **Quantifies disparities in use of preventive care** by comparing the use of services by racial and ethnic groups to the white, non-Hispanic population; and
- **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 racial and ethnic groups.

Highlights of the report's findings follow:

LOW USE OF PREVENTIVE CARE COSTS LIVES

Utilization rates remain low for preventive services that are very cost effective and have been recommended for years. Increasing the use of just 5 preventive services would save more than 100,000 lives each year in the United States.

- 45,000 additional lives would be saved each year if we increased to 90 percent the portion of adults who take aspirin daily to prevent heart disease. Today, fewer than half of American adults take aspirin preventively.
- 42,000 additional lives would be saved each year if we increased to 90 percent the portion of smokers who are advised by a health professional to quit and are offered medication or other assistance. Today, only 28 percent of smokers receive such services.
- 14,000 additional lives would be saved each year if we increased to 90 percent the portion of adults age 50 and older who are up to date with any recommended screening for colorectal cancer. Today, fewer than 50 percent of adults are up to date with screening.
- 12,000 additional lives would be saved each year if we increased to 90 percent the portion of adults age 50 and older immunized against influenza annually. Today, 37 percent of adults have had an annual flu vaccination.

- 3,700 additional lives would be saved each year if we increased to 90 percent the portion of women age 40 and older who have been screened for breast cancer in the past 2 years. Today, 67 percent of women have been screened in the past 2 years.
    - Breast and cervical cancer screening rates were lower in 2005 compared to five years earlier for every major racial and ethnic group: White, Hispanic, African American and Asian women all experienced declines.
- 30,000 cases of pelvic inflammatory disease would be prevented annually if we increased to 90 percent the portion of sexually active young women who have been screened in the past year for chlamydial infection. Today, 40 percent of young women are being screened annually.

RACIAL AND ETHNIC DISPARITIES IN USE OF PREVENTIVE CARE

In several important areas, use of preventive care among racial and ethnic groups lags behind that of non-Hispanic whites.

- Hispanic Americans have lower utilization compared to non-Hispanic whites and African Americans for 10 preventive services.
    - Hispanic smokers are 55 percent less likely to get assistance to quit smoking from a health professional than white smokers.
    - Hispanic adults age 50 and older are 39 percent less likely to be up to date on colorectal cancer screening than white adults.
    - Hispanic adults age 65 and older are 55 percent less likely to have been vaccinated against pneumococcal disease than white adults.
- Asian Americans have the lowest utilization of any group for aspirin use as well as breast, cervical and colorectal cancer screening.
    - Asian men age 40 and older and women age 50 and older are 40 percent less likely to use aspirin to prevent heart disease than white adults.
    - Asian adults age 50 and older are 40 percent less likely to be up to date on colorectal screening than white adults.
    - Asian women ages 18 to 64 are 25 percent less likely to have been screened for cervical cancer in the past 3 years than white women.
    - Asian women age 40 and older are 21 percent less likely to have been screened for breast cancer in the past two years than white women.
- Despite higher screening rates among African Americans for colorectal and breast cancer compared to Hispanic and Asian Americans, increasing screening in African Americans would have a bigger impact on their health because they have higher mortality for those conditions.

- If the 42 percent of African Americans age 50 and older up to date with any recommended screening for colorectal cancer increased to 90 percent, 1,800 additional lives would be saved annually. This is a rate of 26 per 100,000 African Americans age 50 and older, substantially more than the corresponding rates of 17, 15, and 15 per 100,000 additional lives saved for whites, Hispanics, and Asians, respectively.

CONCLUSION

Low utilization rates for cost-effective preventive services reflect the lack of emphasis that our health care system currently gives to providing these services. Among the 12 preventive services examined in this report, 7 are being used by about half or less of the people who should be using them. Racial and ethnic minorities are getting even less preventive care than the general U.S. population.

Expanding the delivery of preventive services of proven value would enable millions of Americans to live longer, healthier, and more fulfilling lives. There is the potential to save more than 100,000 lives annually by increasing use of just 5 preventive services. It would also lead to more effective use of the nation's resources because the United States would get more value—in terms of premature death and illness avoided—for the dollars it spends on health care services.

Introduction

In 2006, Partnership for Prevention® and HealthPartners Research Foundation, under the guidance of the National Commission on Prevention Priorities, published a study[1] 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).[2] 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.

[1] 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.

[2] 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	

Notes:
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

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.

Go to www.prevent.org/ncpp for complete information.
See the appendix to this report for more complete descriptions of all 25 services.

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

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

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;[3]
- 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.[4]

[3] 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.

[4] 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.

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.[5]) 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).

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

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.

[5] 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.

The bottom line: A health care system that optimizes use of high-impact, cost-effective preventive services is using its resources efficiently. Low utilization of these high-value preventive services squanders the chance to prevent pain and suffering for fewer dollars compared to waiting to treat diseases after they occur.

Most Cost-Effective Preventive Services*
Cost Saving
Advising at-risk adults to consider taking aspirin daily
Childhood immunizations
Pneumococcal immunization (adults 65+)
Smoking cessation advice and help to quit
Screening adults for alcohol misuse and brief counseling
Vision screening (adults 65+)
$0 to $15,000/QALY
Chlamydia screening (sexually active adolescents and young women)
Colorectal cancer screening (adults 50+)
Influenza immunization (adults 50+)
Pneumococcal immunization (adults 65+)
Vision screening in preschool age children
$15,000 to $50,000/QALY
Breast cancer screening (women 40+)
Cervical cancer screening (all women)
Cholesterol screening (men 35+ and women 45+)
Counseling women of childbearing age to take folic acid supplements
Counseling women to use calcium supplements
Injury prevention counseling for parents of young children
Hypertension screening (all adults)

*Most cost-effective preventive services among the 25 preventive services recommended by the USPSTF and ACIP that were evaluated by the National Commission on Prevention Priorities.

Source: 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.

Why Don't More People Receive the Preventive Services They Need? Although the reasons are complex, the following are important factors:

- Many health care providers lack systems or fail to use systems to 1) track their patients to determine who needs preventive services, 2) contact those patients to remind them to get the services, 3) remind themselves to deliver preventive services when they see their patients, 4) ensure the services are delivered correctly and that appropriate referrals and follow-up occur, and 5) make certain that patients understand what they need to do.
- The U.S. health care system benefits specialty care and acute care treatment at the expense of primary care and prevention, as evidenced by limited investment in developing a prevention-oriented health care workforce and limited training for doctors and other health care providers in delivering preventive care, in particular, how to deliver effective brief counseling messages to change behavior and improve compliance with prescribed medications that prevent disease and death.
- Demand for preventive services among consumers is weakened by high out-of-pocket costs for preventive services faced by the uninsured and those who have high-deductible insurance plans without exceptions for preventive care. Approximately 46 million Americans have no health insurance coverage at all. Two-thirds of the uninsured are either poor or near-poor, and minorities are more likely to be uninsured than white Americans.[6]
- Many Americans, particularly minorities, have no connection to a regular source of health care with providers that will help ensure they are getting all the preventive services they need. In a 2006 survey, only 27 percent of Americans ages 18 to 64 reported having a regular doctor or source of health care and a medical home.[7] Three-fourths of whites, African Americans, and Hispanics with medical homes reported getting the health care they need when they need it compared to 38 percent of adults without any regular source of health care.[8]
- People are often unaware of the preventive services that are recommended for individuals of their age, gender, and risk factors, do not consider themselves to be at-risk, or are uncertain about the effectiveness of certain preventive services. Behavior change is also very challenging. Many people have great difficulty increasing and maintaining their exercise levels, changing and maintaining their diets, and permanently quitting smoking. Some preventive services, such as colorectal cancer screening, can be difficult to prepare for and are time-consuming.

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[6] The Kaiser Commission on Medicaid and the Uninsured. *The Uninsured: A Primer*. October 2006. http://kff.org/uninsured/7451.cfm.

[7] A medical home was defined as a health care setting that provides timely, well-organized care with providers who are easy to contact.

[8] Beal AC and Doty MM. *Closing the Divide: How Medical Homes Promote Equity in Health Care: Results From The Commonwealth Fund 2006 Health Care Quality Survey*. The Commonwealth Fund, June 2007.

Use of High-Value Preventive Care and Lives Saved If Use Improved

This chapter documents the use of preventive care among the general U.S. population for 12 of the 25 clinical preventive services included in the National Commission on Prevention Priorities' rankings of preventive services. These 12 services are the only ones among the 25 that have utilization data available.[9, 10] Data on use of these services among racial and ethnic groups are presented in the following chapter of this report. All 12 services fall into the top-half of the NCPP's rankings.

This chapter also quantifies the health impact, in most cases the lives saved, if utilization among all people eligible for the service were increased from current levels to 90 percent.

Discuss Daily Aspirin Use

The U.S. Preventive Services Task Force (USPSTF) recommends that health care providers discuss the benefits and potential harms of regular use of low-dose aspirin with men age 40 and older, postmenopausal women, and younger people with risk factors for coronary heart disease (such as smoking, diabetes, and hypertension). Aspirin is a preventive treatment for heart disease, including heart attacks and the most significant disease consequence of heart attacks, congestive heart failure.

Current surveillance systems are not tracking the extent to which providers are advising adult patients to consider using aspirin daily to lower their risk of heart disease. The data presented here are on the number of at-risk adults who report using aspirin daily.

Among men age 40 and older and women age 50 and older, 40.2 percent were taking aspirin daily or every other day for any reason in 2005. The trend is moving very slowly in the right direction, but annual changes in the data must be interpreted cautiously (see footnote to the chart).

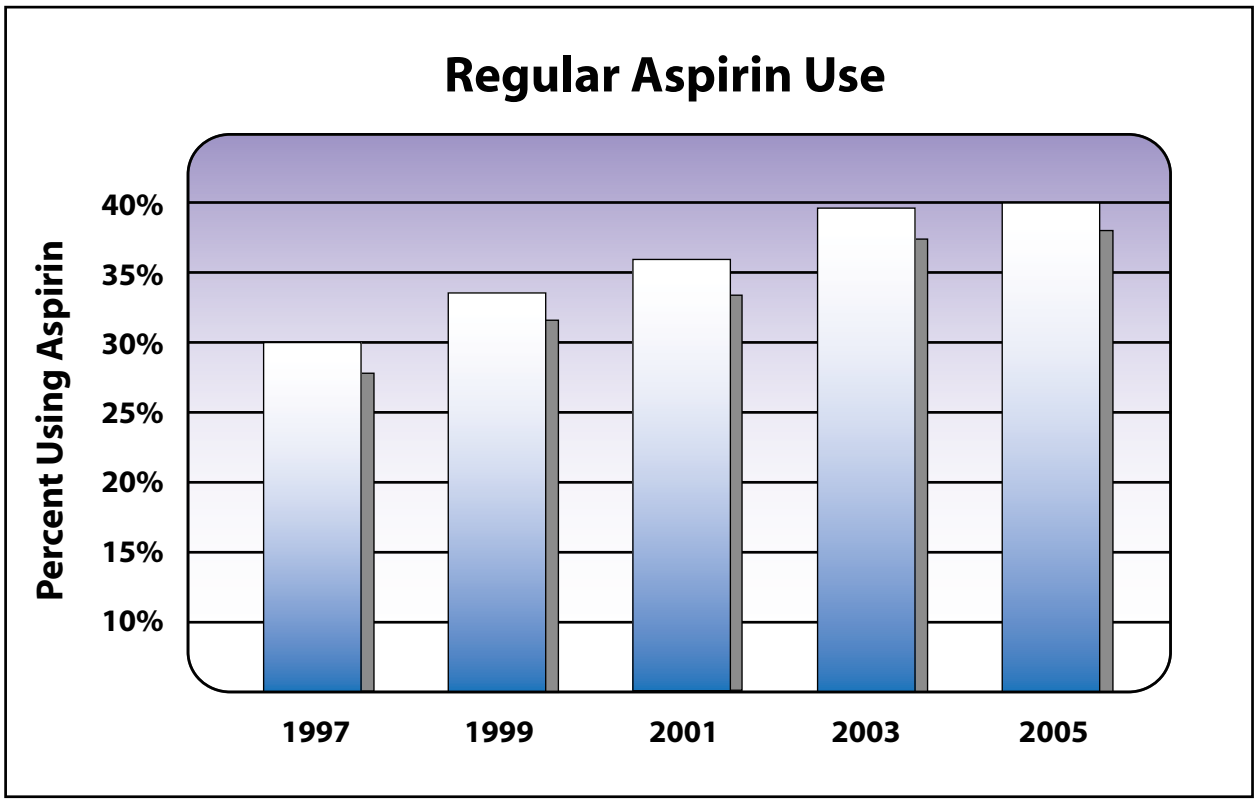
Although aspirin is cheap and accessible, fewer than half of adults report using it consistently over extended periods. More adults need guidance from their doctors to start and maintain an aspirin regimen.[11] Counseling at-risk adults to consider using aspirin daily would save about $70 per

[9] For 11 of these 12 services, data are available from well-regarded national telephone surveys. Utilization data for chlamydia screening comes from private health plans that report HEDIS® data to the National Committee for Quality Assurance. Thus, the chlamydia screening rate reported here provides only a limited approximation of the extent to which all eligible women are being screened. Data on utilization by racial and ethnic group are not available for chlamydia screening.

[10] The appendix to this report provides a summary of the gaps in the data on utilization of all 25 preventive services.

[11] A nationally representative online survey assessing aspirin use among 1,300 adults aged 40+ found that having a discussion with one's provider was the factor most strongly associated with aspirin use. One-third of all respondents reported discussing aspirin use with a provider. Among those reporting a discussion, 88 percent reported regular aspirin use; 17 percent who took aspirin regularly did not report a discussion with a health care provider. Source: Pignone M et al. Aspirin use among adults aged 40 and older in the United States: results of a national survey. *Am J Prev Med* 2007; 32(5):403-407.

person counseled, assuming that about 50 percent of people comply with physician advice.[12] The cost-savings of 90 percent compliance with physician advice to use aspirin would be greater.[13]



Source: Behavioral Risk Factor Surveillance Survey, CDC

Notes: (1) Percent refers to men age 40 and older and women age 50 and older who report aspirin use every day or every other day for any reason.

(2) The aspirin question is a state-optional (non-core) question. The states that chose to include this question vary from year to year and therefore annual changes in use of aspirin should be interpreted cautiously.

HEALTH IMPACT ASPIRIN USE IN MEN 40+ AND WOMEN 50+			
Population Group	% Currently Reporting Daily Aspirin Use (2005)	Lives Saved Annually if Daily Use of Aspirin Increased to 90%	Lives Saved Annually Per 100,000 if Daily Use Increased to 90%
Men 40+ Women 50+	40%	45,000	23

[12] HealthPartners Research Foundation and Partnership for Prevention. Aspirin for the Primary Prevention of Cardiovascular Disease: Technical Report Prepared for the National Commission on Prevention Priorities. June 2006.

[13] Aspirin use is not necessarily the correct choice for all people with increased risk for coronary heart disease. The USPSTF recommends that clinicians discuss the risks and benefits of aspirin, rather than encourage all eligible patients to use aspirin. For comparison to other preventive measures, we use 90% utilization to estimate the potential health benefits. Approximately 10% of individuals have aspirin sensitivity and many of these can be helped with desensitization therapy (Gollapudi RR, Teirstein PS, Stevenson DD, Simon RA. Aspirin sensitivity: implications for patients with coronary artery disease. JAMA. 2004 Dec 22;292(24):3017-23).

Childhood Immunizations

Although there remains significant room for improvement, utilization rates for most childhood vaccines are high, and disparities in utilization rates between racial and ethnic groups have been largely eliminated among children under age three. According to the Centers for Disease Control and Prevention, in 2005 the pneumococcal conjugate vaccine, which was first recommended in 2000, reached greater than 50 percent utilization for the full four-dose series for the first time.[14]

Vaccination Rates Among Children 19-35 Months of Age

Vaccine/Dosage	2001	2003	2005
DTP/DT/DTaP			
≥3 doses	94.3	96.0	96.1
≥4 doses	82.1	84.8	85.7
Poliovirus	89.4	91.6	91.7
***Haemophilus influenza* type b**			
≥3 doses	93.0	93.9	93.9
Measles, mumps and rubella			
≥1 dose	91.4	93.0	91.5
Hepatitis B			
≥3 doses	88.9	92.4	92.9
Varicella			
≥1 dose	76.3	84.8	87.9
Pneumococcal conjugate			
≥3 doses	n/a	68.1	82.8
≥4 doses	n/a	35.8	53.7
Combined series			
4:3:1:3:3:1*	61.3	72.5	76.1

* ≥4 doses of diphtheria, tetanus toxoids and pertussis vaccines; diphtheria and tetanus toxoids vaccine; or diphtheria, tetanus toxoids vaccine and any acellular pertussis vaccine (DTP/DT/DTaP); ≥3 doses of poliovirus vaccine; ≥1 dose of MMR vaccine; ≥3 doses of Haemophilus influenzae type b vaccine; ≥3 doses of hepatitis B vaccine; and ≥1 dose of varicella vaccine.

Source: National Immunization Survey, United States, 2001-2005

[14] Centers for Disease Control and Prevention. National, State, and Urban Area Vaccination Coverage Among Children Aged 19-35 Months - United States, 2005. MMWR 2006; 55(36):988-993.

Higher vaccination rates for children compared to adults did not happen overnight: it was the result of a concerted effort by doctors, parents, government agencies, health insurers, employers, and advocacy groups to bring about the change. Time, attention, good record-keeping, insurance coverage, safety net programs, and public policies all help ensure that many children in the United States get vaccinated. Continued vigilance is essential to ensure that successes do not erode. Similar approaches will be necessary to increase the use of other preventive services. Based on rates of disease in the pre-vaccination era, approximately 15 million cases of disease and 35,000 deaths are currently prevented annually by childhood immunizations.[15]

Smoking Cessation Advice and Help to Quit

The USPSTF recommends that health care providers screen all adult patients for tobacco use and provide brief, behavioral counseling (less than three minutes) including 1) urging patients in a clear and strong message that quitting is important to their health and 2) offering medications to aid in quitting and/or referrals to community programs or for more intensive counseling. Twenty percent of adults smoke,[16] and one-third of smokers will die prematurely as a result.[17] Smoking cessation is beneficial at any age and it eliminates the risk of harming others with secondhand smoke.

Counseling adult patients who smoke to quit saves about $500 per smoker counseled.[18] Tobacco cessation advice and help to quit saves more money than it costs because so much is saved in downstream medical costs that it completely offsets the upfront costs of identifying and treating smokers—and that includes the medical costs of those who quit and those who do not.[19]

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[15] HealthPartners Research Foundation and Partnership for Prevention. Childhood Immunizations: Health Impact and Cost Effectiveness. Technical Report Prepared for the National Commission on Prevention Priorities, 2006.

[16] Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System. 2004. [Web Page]; http://www.cdc.gov/brfss/. [Accessed 24 Mar 2006].

[17] Projected smoking-related deaths among youth – United States. Morb Mortal Wkly Rep 1996 Nov 8;45(44):971-4.

[18] Solberg LI, Maciosek MV, Edwards NM, Khanchandani HS, Goodman MJ. Repeated tobacco use screening and intervention in clinical practice: health impact and cost effectiveness. Am J Prev Med 2006; 31(1):62-71.

[19] Existing literature indicate that the average 12-month quit rate in clinical practice for smoking cessation counseling with cessation medications is about 5%. The effectiveness of repeated counseling over the lifetime of smokers may be as high as 20% (Source: See Solberg LI, et al. above.)

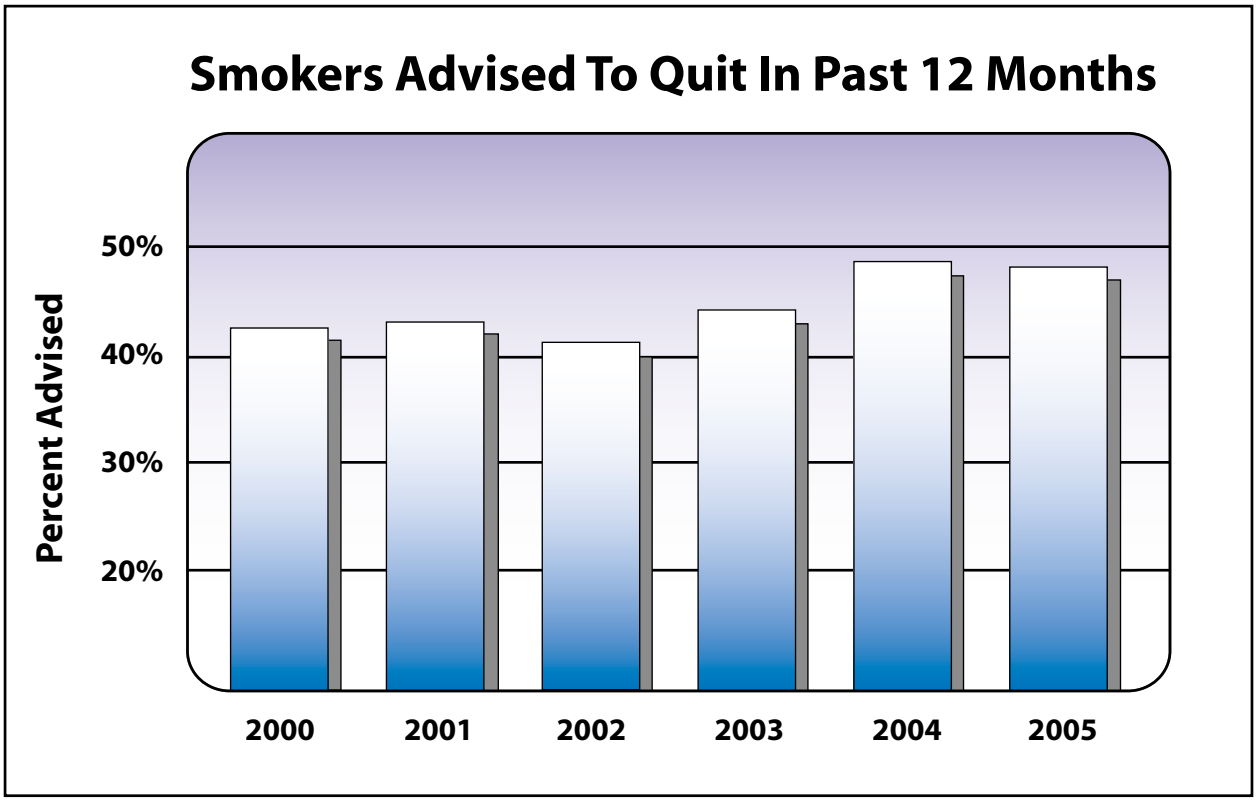
In 2005, 27.5 percent of smokers reported that, in the past 12 months, a doctor, nurse or other health professional offered them medication assistance to quit smoking or strategies other than medication to assist with quitting.[20] This compares to 27.6 percent in 2004 (see footnotes to the charts on the limitations of the trends). A higher percentage of smokers, 47.9 percent, reported receiving advice to quit smoking by a health professional in the past 12 months. Advice to quit smoking does not fulfill all of the recommended counseling actions; to be effective, smoking cessation counseling must also include offers of assistance. There remains great potential for saving lives and dollars by offering professional advice and assistance to a much greater percentage of smokers annually.

Source: Behavioral Risk Factor Surveillance Survey, CDC

Notes: (1) Percent of smokers 18+ years of age who had a doctor, nurse or other health professional discuss medication assistance to quit smoking OR recommend/discuss methods or other strategies other than medication to assist with quitting smoking in the past 12 months.

(2) This question is a state-optional question. The states that chose to include this question varied from year-to-year and therefore annual changes in the percentage of smokers offered help to quit should be interpreted very cautiously.

[20] These data are consistent with HEDIS® performance data. An analysis of 2005 HEDIS® data showed that 26.8% of smokers 18 years and older reported receiving advice to quit smoking, discussion of smoking cessation medication, and discussion of smoking cessation strategies from a health professional in the past year. These are smokers enrolled in commercial health plans that report HEDIS® data to the National Committee for Quality Assurance.



Source: Behavioral Risk Factor Surveillance Survey, CDC

Notes: (1) Percentage of adult smokers age 18 and older who were advised by a doctor or other health provider to quit smoking in the past 12 months

(2) This question is a state-optional question. The states that chose to include this question varied from year-to-year and therefore annual changes in the percentage of smokers advised to quit should be interpreted very cautiously.

(3) Starting in 2001, receipt of advice to quit smoking was only asked of smokers who reported seeing a health professional in the past 12 months. We assigned a "no" response (did not receive advice to quit in past 12 months) to all smokers who did not report seeing a health professional in the past 12 months. This makes the rates presented here comparable with other services in this report. For example, the rate of women who have had a mammogram in the past two years is among all women, not just those women who have seen a health professional in the past 2 years. Among smokers who had seen a health professional in the past 12 months, 69.6 percent, 69.5 percent, 71.1 percent, 64.1 percent and 62.1 percent reported receiving advice to quit in 2001-2005. The 2004 and 2005 surveys included more detailed questions regarding receipt of information on medication or other assistance to quit smoking (see previous chart).

HEALTH IMPACT
SMOKING CESSATION ADVICE AND HELP TO QUIT

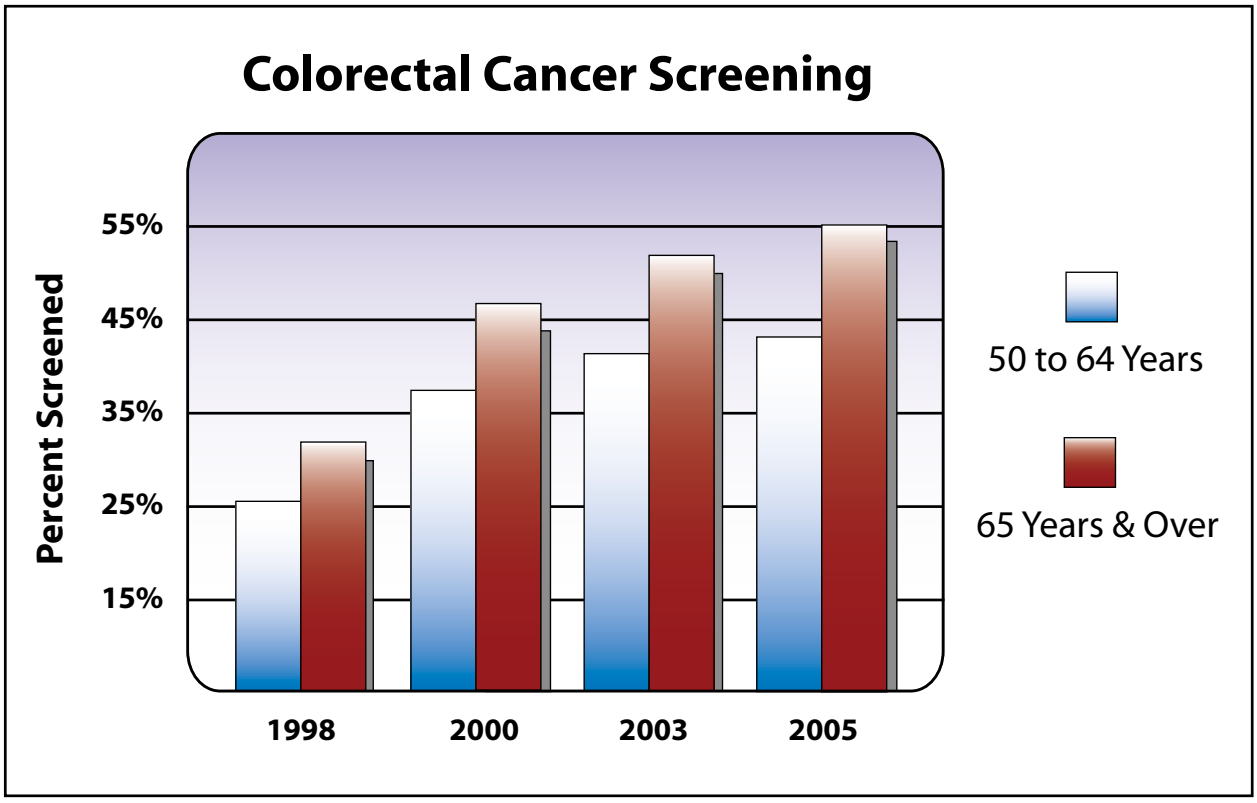
Population Group	% of Smokers Who Were Offered Help to Quit in Past 12 Months (2005)	Lives Saved Annually If % of Smokers Offered Help to Quit Increased to 90%*	Lives Saved Annually Per 100,000 Smokers If % Offered Help to Quit Increased to 90%
All Adult Smokers	28%	42,000	43

*Lives saved based on smokers given earnest advice to quit and offered medication assistance, other strategies, and referral to community-based programs or for more intensive counseling.

Colorectal Cancer Screening

The USPSTF recommends screening all men and women age 50 and older for colorectal cancer. Screening options include home fecal occult blood testing (FOBT), flexible sigmoidoscopy, the combination of home FOBT and flexible sigmoidoscopy, colonoscopy, and double-contrast barium enema. Clinicians are advised to talk to patients about the benefits and potential harms associated with each option before selecting a screening strategy. Fifty-seven thousand people die annually from colorectal cancer. If all people were screened periodically with recommended methods, 33,000 colorectal cancer deaths could be prevented each year.

The number of adults age 50 and older who were up to date on colorectal cancer screening (any recommended method) increased from 28.9 percent in 1998 to 48.1 percent in 2005. The rate of improvement has been steady but slow. The screening rate increased from 42.0 percent in 2000 to 46.3 percent in 2003. Adults over age 65 have higher screening rates compared to adults ages 50-64 years: 43.5 percent of adults ages 50-64 were up to date on screening in 2005 compared to 54.8 percent of adults age 65 and older.



Source: National Health Interview Survey, National Center for Health Statistics, CDC

Notes: Portion of adults age 50 and older who have had a colonoscopy in the past 10 years, sigmoidoscopy in the past five years, proctoscopy within the past five years, or home blood stool test in past two years, all for screening purposes only.

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[21] Maciosek MV, Solberg LI, Coffield AB, Edwards NM, Goodman MJ. Colorectal cancer screening: health impact and cost effectiveness. *Am J Prev Med* 2006; 31(1):80-89.

[22] Data from the Behavioral Risk Factor Surveillance Survey (2006) indicate that 57% of adults nationwide report ever having had a sigmoidoscopy or colonoscopy. This rate is higher because it is not limited to tests that were received within 5 years for sigmoidocopsy or 10 years for colonoscopy. Also this rate does not exclude tests that were for diagnostic purposes.

HEALTH IMPACT COLORECTAL CANCER SCREENING IN ADULTS 50+			
Population Group	% Up to Date with Screening (2005)*	Lives Saved Annually If % Up to Date with Screening Increased to 90%	Lives Saved Per 100,000 If % Up to Date with Screening Increased to 90%
Adults 50+	48%	14,000	18
*Screening up to date with any recommended method			

Hypertension Screening

The USPSTF recommends measuring the blood pressure of all adults age 18 and older and treating adults for high blood pressure with anti-hypertensive medication. High blood pressure is prevalent in the U.S. and can lead to heart attack or stroke: thirty percent of Americans age 20 and older have hypertension; nearly 50 percent develop hypertension before age 65.[23] Weight gain is associated with an increased risk of developing hypertension.

The most recent data on hypertension screening from the National Health Interview Survey are from 2003. Rates of hypertension screening within the past two years were very high among all adults age 18 and older in 2003 (86.5 percent), ranging from 82.5 percent for adults ages 18-34 to 92.3 percent for adults 65 and older. The chart shows that in 2003 more women 18 and older reported screening in the past two years (90.1 percent) compared to men (82.8 percent), a difference that has not changed since 1998 when the rate was 90.1 percent for women and 81.9 percent for men.

The additional health impact of attaining screening rates of 90 percent is approximately zero because screening rates have reached this level among the age groups at greatest risk for developing cardiovascular disease. The maximum benefit of screening is gained through consistent, long-term use of anti-hypertensive medications. Among people who have been screened, long-term persistence with medication is about 40 percent.[24, 25, 26] Rather than concentrating resources on increasing screening rates, resources would be better used to ensure that people who have been screened and are hypertensive are aware of their condition and continue taking their medication regularly.

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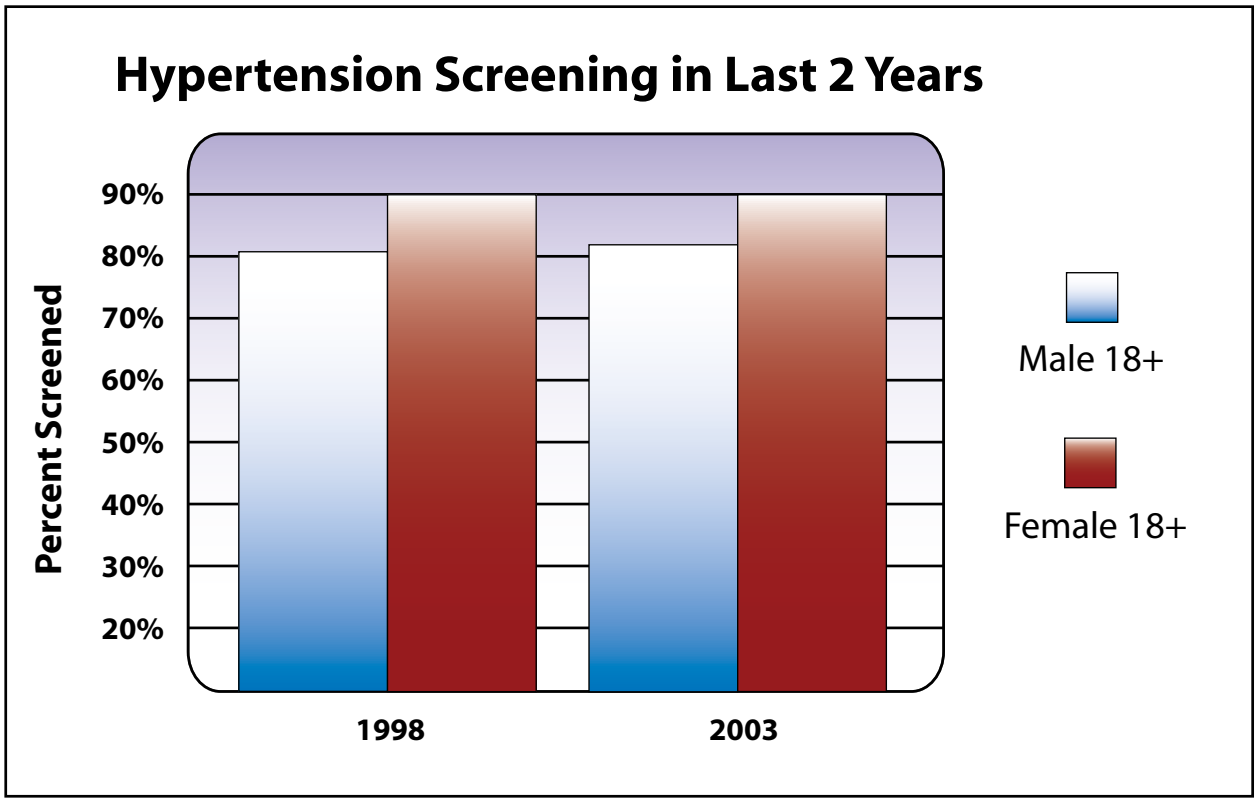
[23] National Center for Health Statistics. Health, United States, 2005 With Chartbook on Trends in the Health of Americans. Hyattsville, Maryland: 2005.

[24] Caro JJ, Salas M, Speckman JL, Raggio G, Jackson JD. Persistence with treatment for hypertension in actual practice. CMAJ 1999 Jan 12;160(1):31-7.

[25] Conlin PR, Gerth WC, Fox J, Roehm JB, Boccuzzi SJ. Four-Year persistence patterns among patients initiating therapy with the angiotensin II receptor antagonist losartan versus other artihypertensive drug classes. Clin Ther 2001 Dec;23(12):1999-2010.

[26] Ansell BJ. Improvement in current approaches to lipid lowering. Am Fam Physician 2002 Mar 1; 65(5):783, 786-7.



Source: National Health Interview Survey, National Center for Health Statistics, CDC

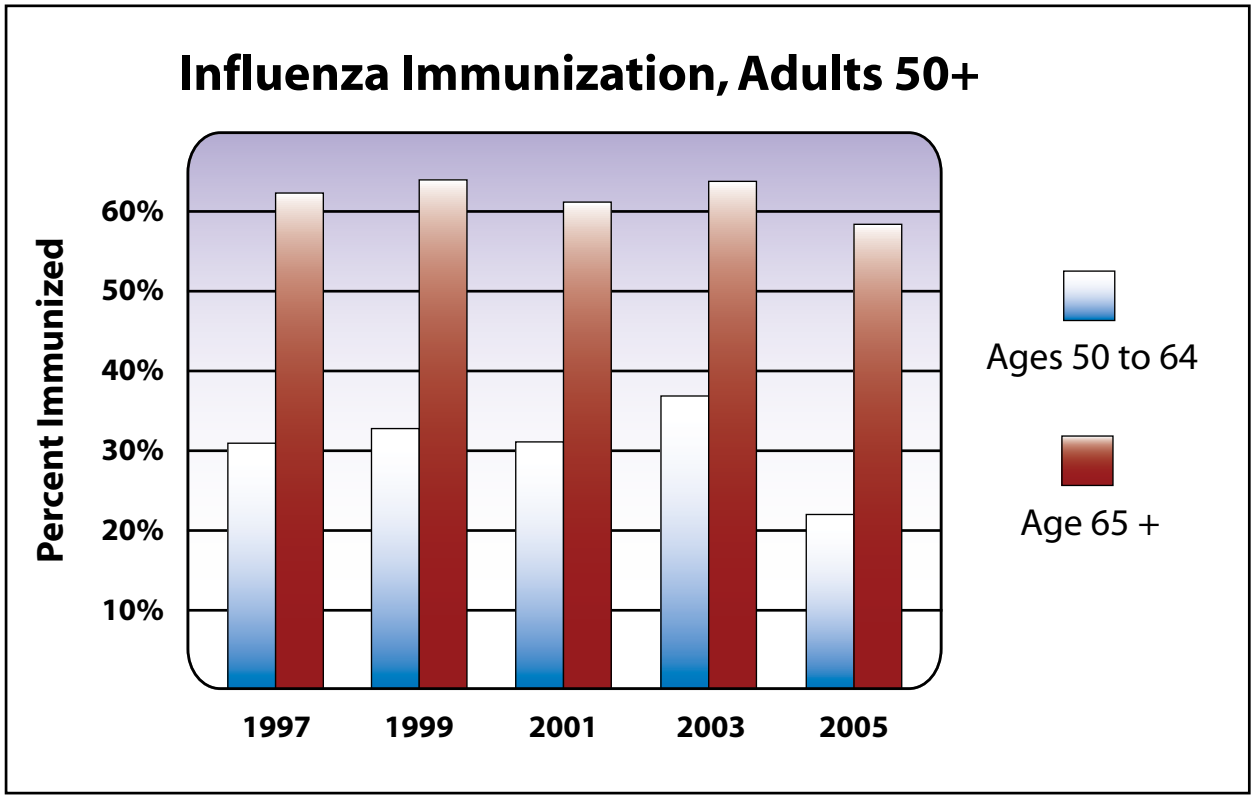
Influenza Immunization - Adults

The Advisory Committee on Immunization Practices (ACIP) recommends that all adults age 50 and older receive one dose of the influenza vaccine annually. ACIP also recommends vaccination in younger adults with certain risk factors or occupations (e.g., health care workers).

About 5 percent to 20 percent of Americans get influenza each year. Most people are better in less than two weeks, but some people develop dangerous complications, such as pneumonia. An average of about 36,000 people die from influenza annually, and more than 200,000 have to be admitted to the hospital as a result of influenza.[27] The single best way for adults to protect themselves is to get a flu shot each fall.

In 2005, only 37.3 percent of adults age 50 and older had been vaccinated against influenza within the previous 12 months: 22.6 percent of adults 50-64 and 58.3 percent of adults age 65 and older. The recommendations for adults age 50-64 to get an annual flu shot is relatively new, which may explain the lower rate in that age group. The vaccination rate for adults 50 and older in 2005 (37.3 percent) was 10 percentage points lower than in 1999 (47.5 percent). Supply challenges during the 2005 influenza vaccination season led to lower vaccine use in adults age 50 and older that year.

[27] Centers for Disease Control and Prevention. Influenza: The Disease. http://www.cdc.gov/flu/about/disease.htm



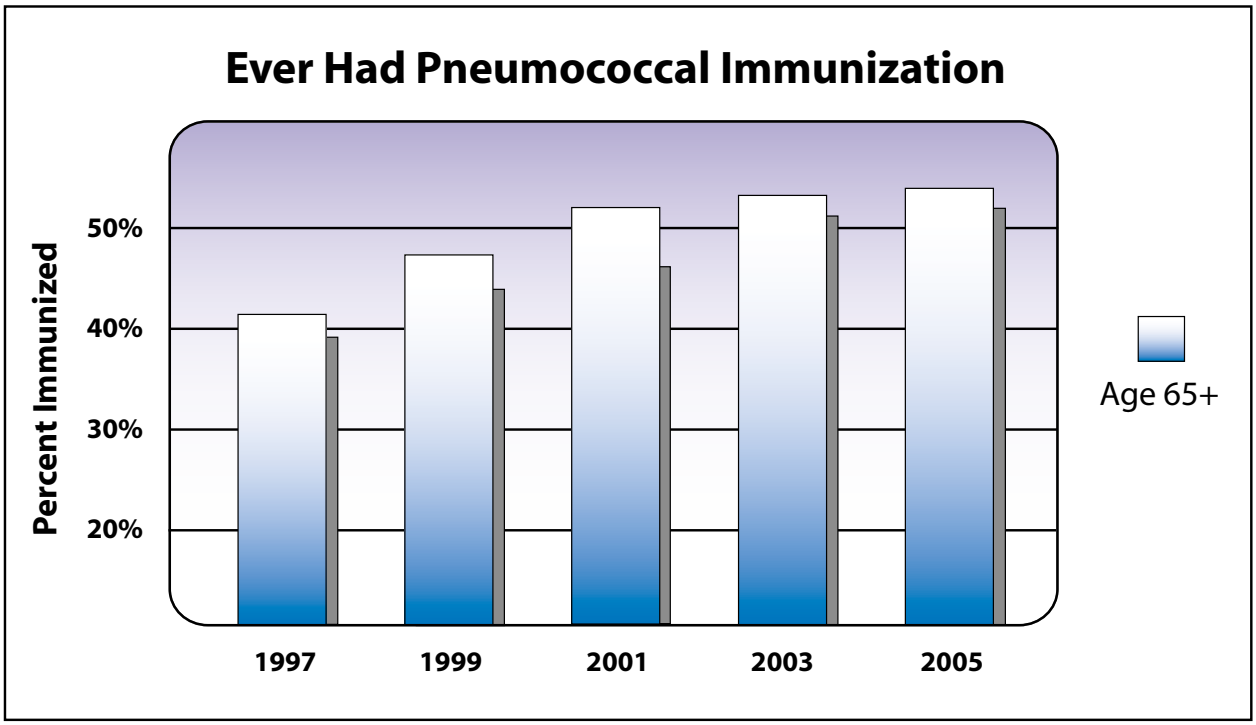
Source: National Health Interview Survey, National Center for Health Statistics, CDC

HEALTH IMPACT INFLUENZA VACCINATION, ADULTS 50+ YEARS			
Population Group	% Vaccinated Against Influenza in Past 12 Months (2005)	Lives Saved Annually if % Vaccinated Increased to 90%	Lives Saved Annually Per 100,000 If % Vaccinated Increased to 90%
Adults 50+	37%	12,000	14

Pneumococcal Immunization - Adults

ACIP recommends that all adults age 65 and older receive a dose of the pneumococcal polysaccharide vaccination. This highly cost-effective vaccine prevents hospitalization and death caused by a bacterial form of pneumonia. Emerging drug-resistant strains underscore the importance of prevention through vaccination.

In 2005, 54.1 percent of adults age 65 and older reported ever having had a pneumococcal immunization. The immunization rate has only increased by six percentage points since 1999 when the rate was 47.9 percent (the rate was 52.1 percent in 2001 and 53.5 percent in 2003). The pneumococcal and influenza vaccines are both covered with no cost-sharing for Medicare beneficiaries.



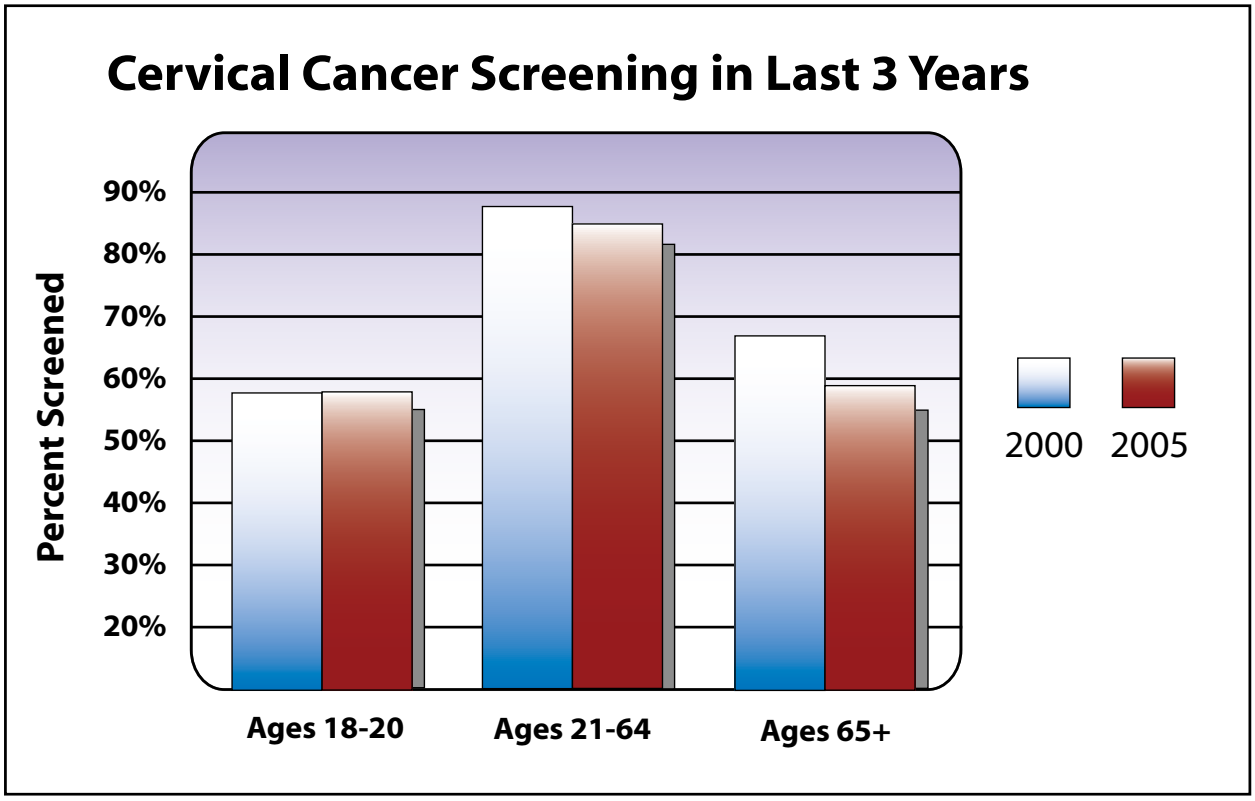
Source: National Health Interview Survey, National Center for Health Statistics, CDC

HEALTH IMPACT PNEUMOCOCCAL VACCINATION, ADULTS 65+ YEARS			
Population Group	% Ever Vaccinated Against Pneumococcal (2005)	Lives Saved Annually If % Ever Vaccinated Increased to 90%	Lives Saved Annually Per 100,000 If % Ever Vaccinated Increased to 90%
Adults 65+	54%	800	2

Cervical Cancer Screening

The USPSTF recommends screening with Pap smears to prevent the incidence of and mortality from cervical cancer. Most of the benefit is obtained by beginning screening within three years of the onset of sexual activity or age 21 (whichever comes first) and screening at least every three years thereafter. Women over age 65 can forego screening if they have had normal Pap smears with their most recent screenings and are not otherwise at high risk for cervical cancer. Cervical cancer is almost entirely preventable through screening. Regular screening with Pap smears is the major reason for the 30-year decline in cervical cancer mortality. Since 1998, the death rate from cervical cancer has remained near 3 deaths per 100,000 women.

In 2005, 80.3 percent of women age 18 and older reported having been screened for cervical cancer within the last three years, including 57.4 percent of women ages 18 to 20, 85.2 percent of women ages 21 to 64, and 59.4 percent of women age 65 and older. The rates were slightly higher five years earlier: In 2000, 82.6 percent of women reported having been screened, including 57.4 percent of women ages 18 to 20, 87.2 percent of women ages 21 to 64, and 67.6 percent of women age 65 and older. The biggest decline in screening was among women age 65 and older from 67.6 percent in 2000 down to 59.4 percent in 2005. In women age 65 and older, screening may not be necessary if they have had previous normal Pap smears. The data do not allow us to distinguish women who should be screened from those who should not. This trend may or may not reflect an appropriate decline in use of screening among women age 65 and older.



Source: National Health Interview Survey, National Center for Health Statistics, CDC

[28] U.S. Department of Health and Human Services. Healthy People 2010: *Understanding and Improving Health.* 2nd ed. Washington, DC: U.S. Government Printing Office, November 2000.

HEALTH IMPACT CERVICAL CANCER SCREENING			
Population Group (2005)	% Screened in Past 3 Years	Lives Saved Annually If % Screened in Past 3 Years Increased to 90%	Lives Saved Annually Per 100,000 If % Screened in Past 3 Years Increased to 90%
Women 18-64	83%	620	0.8
Additional deaths would be prevented if screening in the past three years reached 90 percent among women age 65 and older who need continued screening. We did not estimate this because we do not know the portion of women age 65 and older who need continued screening nor what their current rate of screening is.			

Cholesterol Screening

The USPSTF recommends screening men 35 and older and women 45 and older for high cholesterol (except in cases where the patient has other risk factors, such as hypertension or diabetes, in which case screening should start sooner) and using lipid-lowering drug treatment in those with abnormal levels of cholesterol. Drug therapy is usually more effective than diet alone, but choice of treatment should be determined by overall risk, costs of treatment, and the patient's preferences.

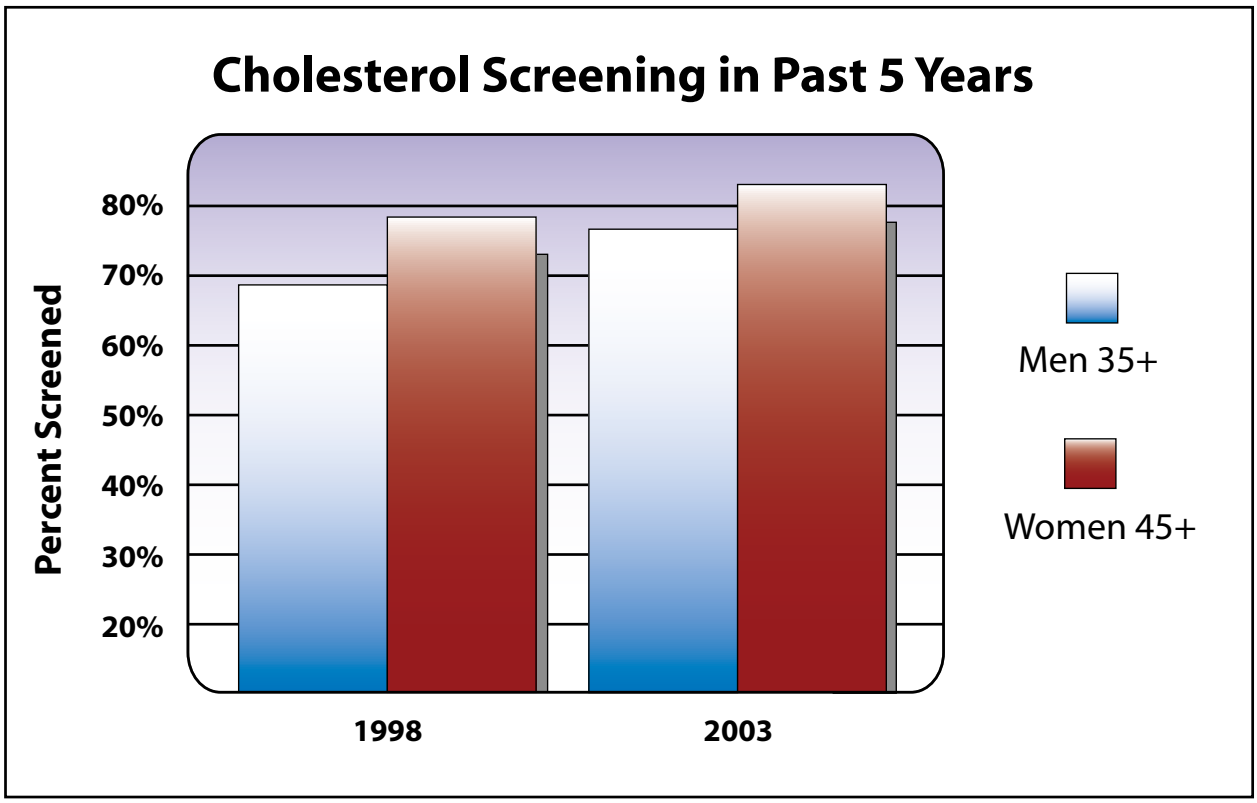
As with hypertension, high cholesterol is prevalent in the United States: 21 percent of adults age 35 and older have high cholesterol, and of these, most develop high cholesterol before age 55.[29] Obesity, which has dramatically increased in the United States in recent decades, raises blood cholesterol levels. One out of four adults who do not control their high cholesterol will have a cholesterol-attributable heart attack. One out of three will die of cholesterol-attributable coronary heart disease.[30]

Among men age 35 and older and women age 45 and older, 79.4 percent reported screening in the past five years in 2003, which is the most recent year data are available. This is higher than the rate reported by the same group in 1998: 73.6 percent. Women reported screening at a higher rate than men in both 1998 and 2003: 69.7 percent and 76.4 percent of men reported screening compared to 78.8 percent and 83.1 percent of women.

The data indicate that one in five U.S. adults at-risk have not been screened for high cholesterol within the last five years. Although there remains room for improvement, screening rates are relatively high for this service. The maximum benefit of cholesterol screening is achieved through the long-term use of drug therapy. Among people who have been screened, long-term persistence with medication is about 40 percent.[15,16,17] Rather than concentrating resources on increasing screening rates, resources would be better used to ensure that people who have been screened and have high cholesterol are aware of it and continue to take their medication regularly.

[29] National Center for Health Statistics. *Health, United States, 2005 With Chartbook on Trends in the Health of Americans.* Hyattsville, Maryland: 2005.

[30] Maciosek, MV, Edwards N M, Nelson WW, et al. Screening for high cholesterol. Technical report prepared for the National Commission on Prevention Priorities. 2006.



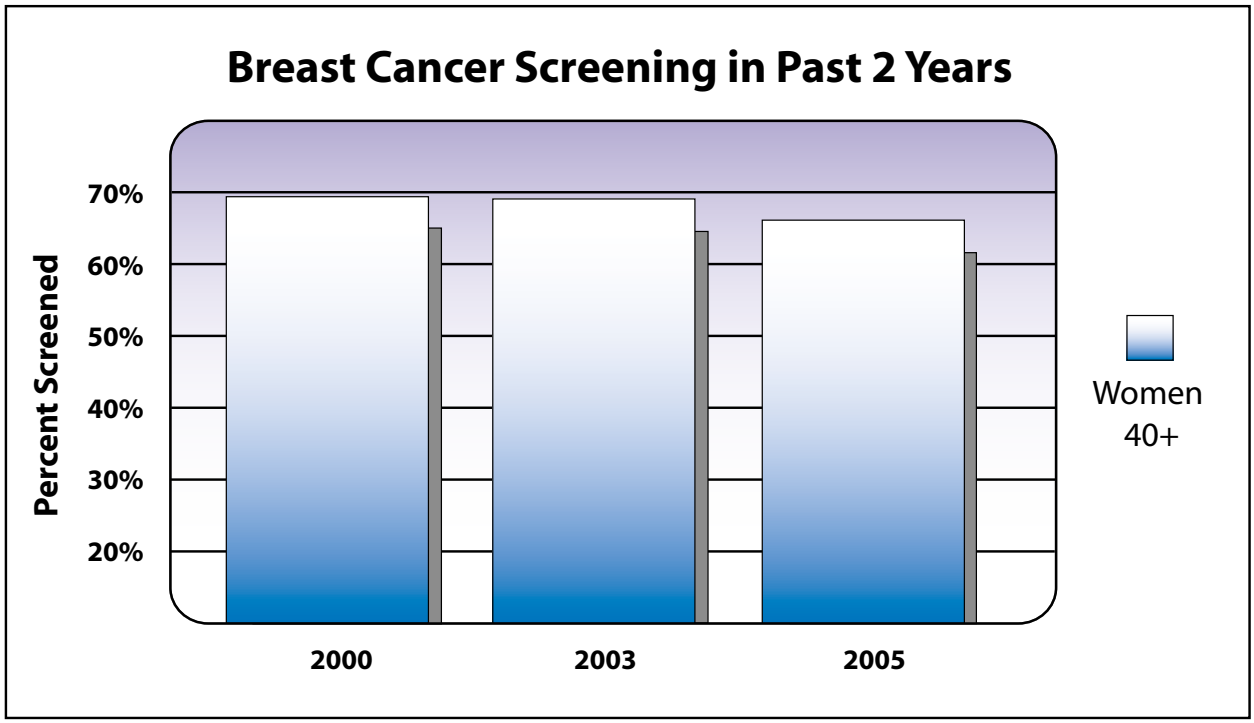
Source: National Health Interview Survey, National Center for Health Statistics, CDC

HEALTH IMPACT CHOLESTEROL SCREENING			
Population Group	% Screened in Past 5 Years (2003)	Lives Saved Annually If % Screened in Past 5 Years Increased to 90%	Lives Saved Annually per 100,000 If % Screened in Past 5 Years Increased to 90%
Men 35+, Women 45+	79%	2,450	5

Breast Cancer Screening

The USPSTF recommends screening mammography every one to two years for women age 40 and older to prevent breast cancer mortality. At current screening rates, mammograms prevent 12,000 deaths from breast cancer annually.[31]

In 2005, 67.0 percent of women ages 40 and older reported having had mammography screening within the previous two years. The trend is not positive: the screening rate in 2005 was lower than in 2000 when 69.2 percent of women reported screening within the previous two years. Mammograms help catch breast cancer early, when tumors are small and easier to treat successfully. If fewer women are screened on-time, more women will be diagnosed with advanced disease that is harder to control, and that could lead to higher breast cancer death rates.



Source: National Health Interview Survey, National Center for Health Statistics, CDC

HEALTH IMPACT BREAST CANCER SCREENING			
Population Group	% Screened with Mammography in Past 2 Years (2005)	Lives Saved Annually If % Screened in Past 2 Years Increased to 90%	Lives Saved Annually per 100,000 If % Screened Increased to 90%
Women 40+	67%	3,700	10

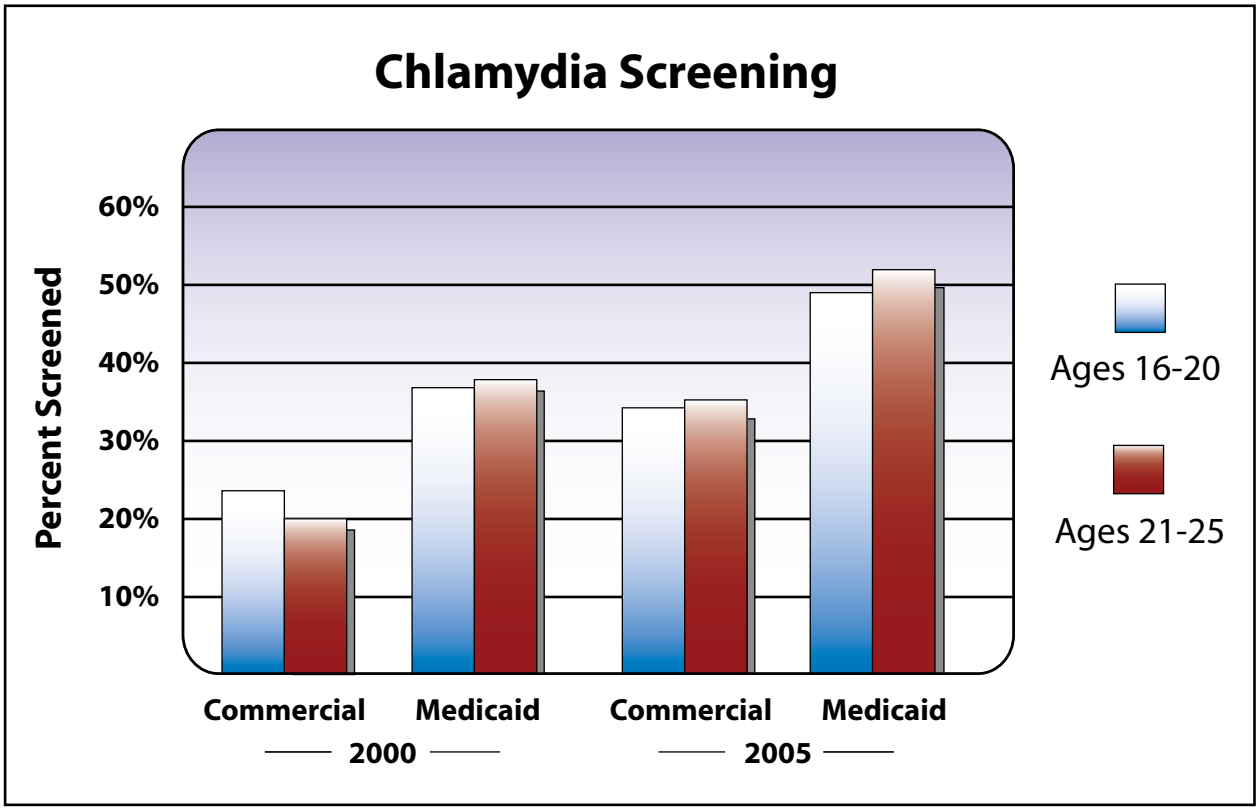
[31] HealthPartners Research Foundation and Partnership for Prevention. Breast Cancer Screening: Health Impact and Cost Effectiveness. Technical Report Prepared for the National Commission on Prevention Priorities. May 2006.

Chlamydia Screening

The USPSTF recommends routine screening for chlamydial infection in sexually active women under age 25 and older women at increased risk. Chlamydia is the most common bacterial sexually transmitted disease in the United States, with 3 million new cases annually. Left untreated, chlamydia causes pelvic inflammatory disease and infertility in some women. Screening is especially important because most women have no symptoms.

Screening rates for sexually active women ages 16-25 are available from more than 500 commercial and Medicaid HMOs and point of service plans that report HEDIS® performance data. About 33 percent of Americans with health insurance are currently enrolled in these types of plans, not all of which report HEDIS® data. One could expect screening rates among the general population of young women to be lower than the HEDIS® rates reported here since measuring and publicly reporting data are likely to motivate health plans to improve utilization. On the other hand, these data may underestimate screening if young women are more likely to seek reproductive health care services from other types of providers, such as Title X-funded clinics.

HEDIS® data for 2005 show that screening rates among young women in commercial plans were significantly lower than rates for women in Medicaid plans: screening among young women ages 16-20 enrolled in commercial plans was 34.4 percent compared to 49.1 percent in Medicaid plans and screening among young women ages 21-25 was 35.2 percent compared to 52.4 percent in Medicaid plans.



Source: National Committee for Quality Assurance, State of Healthcare Quality 2006

Note: Percent screened include sexually active female plan members ages 16-25 who had at least one test for chlamydia during the measurement year.

HEALTH IMPACT CHLAMYDIA SCREENING			
Population Group	% Screened in 2005*	Cases of PID Prevented Annually If % Screened Increased to 90%	Cases of PID Prevented Annually Per 100,000 If % Screened Increased to 90%
Women 16-25	40%	30,000	13
*Approximate rate based on HEDIS® performance data.			

Vision Screening Among Children

The USPSTF recommends screening to detect amblyopia, strabismus and defects in visual acuity in children younger than age five. About 3 percent of preschoolers have visual impairments, a portion of which would remain undetected at school age without screening. Screening and treatment are inexpensive and can improve quality of life. The most recent data available for vision screening in preschool-age children from the National Health Interview Survey are from 2002. Thirty-six percent of parents reported that their child's vision had been screened by a health professional. If screening were increased from 36 percent up to 90 percent, an additional 27,000 cases would be detected and may benefit from early treatment.

Disparities in Use of High-Value Preventive Services

This chapter documents utilization for 11 clinical preventive services among racial and ethnic groups. Table 1 shows the size of the disparity in utilization of preventive services between non-Hispanic whites[32] and racial and ethnic minority groups (see textbox for explanation of how disparities were calculated). Table 2 shows the utilization rates for the total population and racial and ethnic groups.

For most of these 11 services, sample sizes were large enough to report data for people who identify themselves as (1) Hispanic only; (2) black only, non-Hispanic; and (3) Asian only, non-Hispanic.[33] For five preventive services, utilization data are available for people who identify themselves as multiple race, non-Hispanic; for two preventive services, utilization data are available for people who are American Indian or Alaska Native alone, non-Hispanic.[34]

How Disparities Were Calculated

Disparities were calculated by taking the percentage of non-Hispanic whites (reference group) receiving the service and subtracting the percentage of the racial/ethnic group receiving the service. This difference was then divided by the percentage of non-Hispanic whites receiving the service.

The larger the value, the greater the disparity between whites and the racial/ethnic group. For example, a disparity of .25 means that that racial/ethnic group was 25 percent less likely to have received the preventive service than whites. A higher disparity of .56, such as for Hispanic adults who have had a pneumococcal immunization, means that Hispanic adults were 56 percent less likely to have received the immunization than whites.

A value of zero means no disparity between whites and the racial/ethnic group.

A value less than zero means that the racial/ethnic group had a higher utilization rate for the service. For example, a disparity of -.21 for vision screening among African American children means that African American children were 21 percent more likely to have received vision screening than white children.

[32] Non-Hispanic whites were chosen for use as a reference group for all services to facilitate comparisons among services. Utilization rates are highest for this group for most, but not all services.

[33] Available data do not allow us to assess differences within these three diverse groups.

[34] Samples sizes for other races, such as Native Hawaiian or other Pacific Islander, were not sufficient for any preventive services.

Tables 1 and 2 show that Hispanics have lower utilization compared to non-Hispanic whites and African Americans for every preventive service with the exception of the pneumococcal conjugate vaccine for infants. However, Asian Americans have the lowest utilization of any group for aspirin use as well as for breast, cervical and colorectal cancer screening.

Table 1: Disparities in Use of Clinical Preventive Services

Preventive Service	Hispanic	Black only, Non-Hispanic	Asian Only, Non-Hispanic	American Indian/ Alaska Native	Multiple Race, Non-Hispanic
Aspirin Use Among Adults *men 40+, women 50+*	.24	.10	.40	.03	.03
Smokers Advised to Quit *adult smokers 18+*	.48	.02	N/A	.06	.04
Smokers Offered Assistance to Quit *adult smokers 18+*	.55	.00	N/A	-.02	.11
Pneumococcal Conjugate Vaccine *infants*	.12	.19	.02	N/A	.05
Colorectal Cancer Screening *adults 50+*	.39	.19	.40	N/A	N/A
Hypertension Screening *adults 18+*	.14	.04	.06	N/A	-.04
Influenza Immunization *adults 50+*	.40	.35	.26	N/A	.21
Cervical Cancer Screening *women 18-64*	.11	.02	.25	N/A	N/A
Cholesterol Screening *men 35+, women 45+*	.11	.05	.04	N/A	-.02
Breast Cancer Screening *women 40+*	.13	.06	.21	N/A	N/A
Pneumococcal Immunization *adults 65+*	.55	.34	.45	N/A	N/A
Vision Screening *children under 6*	.08	-.21	.10	N/A	-.41

* Disparities were calculated by taking the percentage of non-Hispanic whites (reference group) receiving the service and subtracting the percentage of the racial/ethnic group receiving the service. This difference was then divided by the percentage of non-Hispanic whites receiving the service. For example, .25 means that that racial/ethnic group was 25% less likely to have received the preventive service than whites. Higher values mean greater disparities. A value of zero means no disparity between whites and the racial/ethnic group. Values less than zero mean that the racial/ethnic group had a higher utilization rate for that service than whites.

Table 2: Utilization Rates for Clinical Preventive Services by Racial/Ethnic Group

Preventive Service	Total Population	White only, Non-Hispanic	Hispanic	Black only, Non-Hispanic	Asian Only, Non-Hispanic	American Indian/ Alaska Native	Multiple Race, Non-Hispanic
Aspirin Use Among Adults *men 40+, women 50+*	40.2%	41.5%	31.4%	37.2%	25.1%	40.2%	40.1%
Smokers Advised to Quit *adult smokers 18+*	47.9%	51.2%	26.8%	50.1%	N/A	47.9%	48.9%
Smokers Offered Assistance to Quit *adult smokers 18+*	27.5%	29.7%	13.4%	29.7%	N/A	30.4%	26.5%
Pneumococcal Conjugate Vaccine *infants*	53.7%	57.3%	50.5%	46.2%	56.2%	N/A	54.2%
Colorectal Cancer Screening *adults 50+*	48.1%	51.2%	31.2%	41.6%	30.6%	N/A	N/A
Hypertension Screening *adults 18+*	86.5%	88.8%	76.3%	85.4%	83.4%	N/A	92.5%
Influenza Immunization *adults 50+*	37.3%	40.3%	24.0%	26.2%	29.9%	N/A	31.9%
Cervical Cancer Screening *women 18-64*	83.2%	85.5%	76.2%	84.0%	64.1%	N/A	N/A
Cholesterol Screening *men 35+, women 45+*	79.4%	80.7%	71.9%	76.7%	77.4%	N/A	82.6%
Breast Cancer Screening *women 40+*	67.0%	68.6%	59.4%	64.6%	54.5%	N/A	N/A
Pneumococcal Immunization *adults 65+*	54.1%	58.5%	26.1%	38.9%	32.0%	N/A	N/A
Vision Screening *children under 6*	35.6%	34.8%	32.1%	42.0%	31.4%	N/A	49.0%

Definitions for Utilization Rates
Aspirin Use – Men 40+ and women 50+ using aspirin everyday or every other day, 2005[1]
Smokers Advised to Quit – Adult smokers 18+ advised to quit by a health professional in past 12 months, 2005[1]
Smokers Offered Assistance to Quit – Adult smokers 18+ offered assistance to quit (medications or other strategies) by a health professional in past 12 months, 2005[1]
Pneumococcal Conjugate Vaccine – Infants immunized, 2005[2]
Colorectal Screening – Adults 50+ up to date with any recommended screening, 2005[3]
Hypertension Screening – Adults 18+ screened in past 2 years, 2003[3]
Influenza Immunization – Adults 50+ immunized in past 12 months, 2005[3]
Cervical Cancer Screening – Women ages 18-64 screened in past 3 years, 2003[3]
Cholesterol screening – Men 35+ and women 45+ screened in past 5 years, 2003[3]
Breast Cancer Screening – Women 40+ screened in past 2 years, 2005[3]
Pneumococcal Immunization – Adults 65+ ever immunized, 2005[3]
Vision Screening (Children under 6) – Parents reporting child's vision had ever been screened by a health professional, 2002[3]

[1] Source: Behavioral Risk Factor Surveillance Survey, CDC

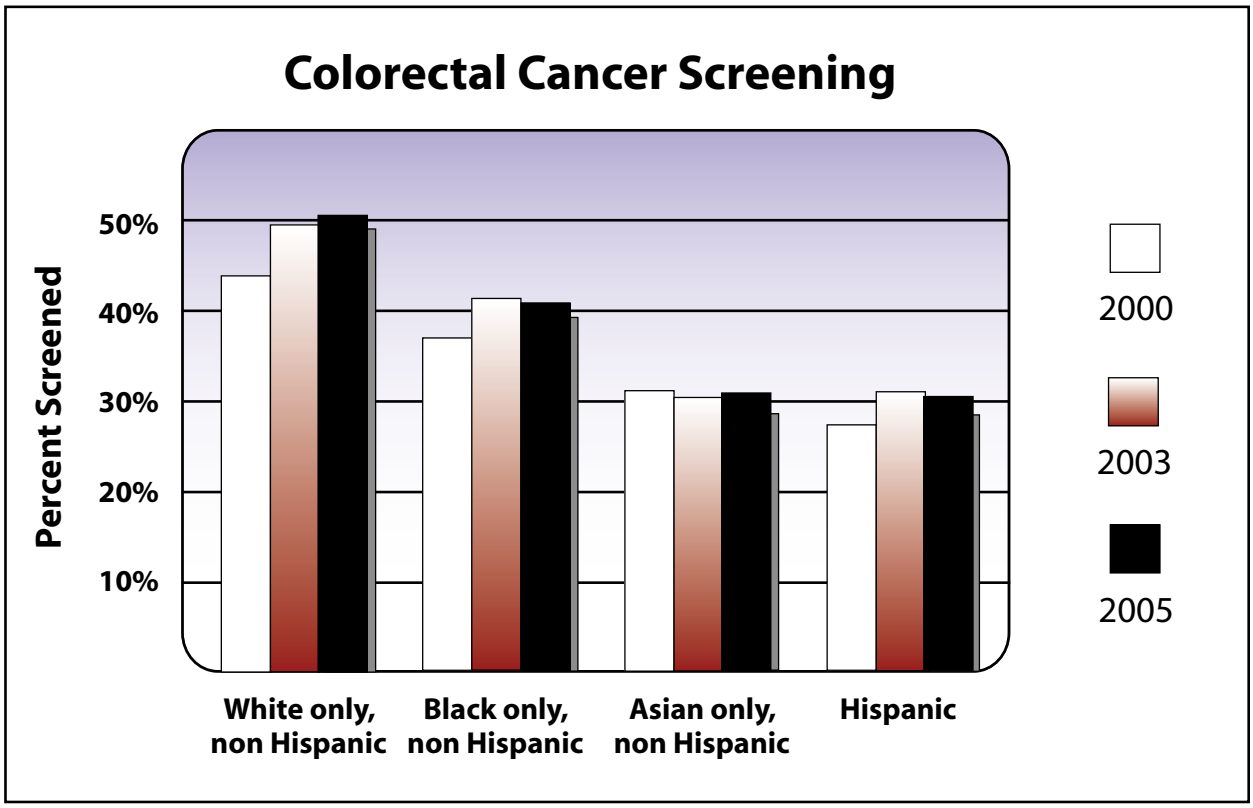
[2] Source: National Immunization Survey, CDC

[3] Source: National Health Interview Survey, National Center for Health Statistics, CDC

Cancer Screening: Lives Saved If Screenings Were Increased Among Racial and Ethnic Groups

Colorectal Cancer Screening

Disparities in use of colorectal cancer screening have increased over time. In 1998, screening rates for whites were approximately 13 percentage points higher than for Hispanic Americans and 7 percentage points higher than for African Americans and Asian Americans. In 2005, screening rates for whites were 21 percentage points higher than for Asian Americans, 20 percentage points higher than for Hispanic Americans, and 10 percentage points higher than for African Americans.



Source: National Health Interview Survey, National Center for Health Statistics, CDC

Notes: Portion of adults age 50 and older who have had a colonoscopy in the past ten years, sigmoidoscopy in the past five years, proctoscopy within the past five years, or home blood stool test in past two years, all for screening purposes only.

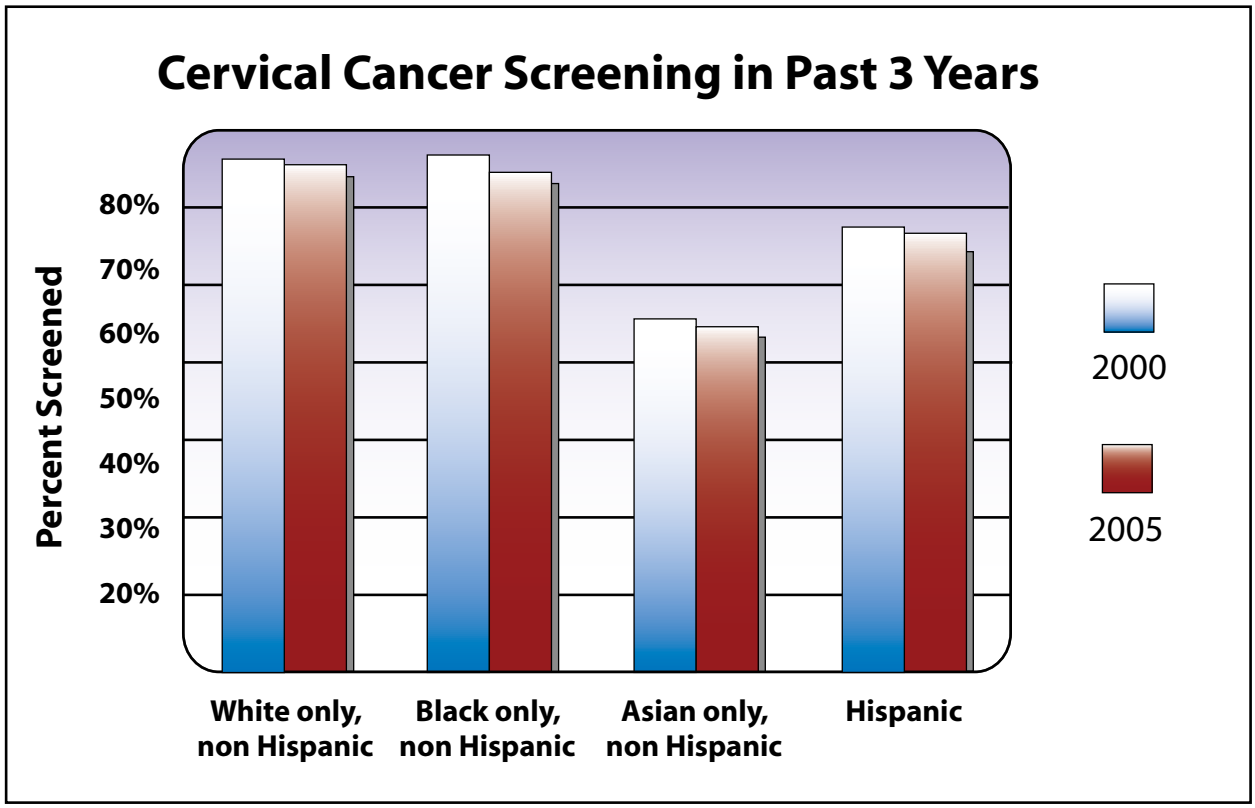
HEALTH IMPACT COLORECTAL CANCER SCREENING IN ADULTS 50+			
Population Group	% Up to Date with Screening* (2005)	Lives Saved Annually If % Up to Date with Screening Increased to 90%**	Lives Saved Per 100,000 If % Up to Date with Screening Increased to 90%
White only, non-Hispanic	51%	11,100	17
Black only, non-Hispanic	42%	1,800	26
Hispanic	31%	700	15
Asian only, non-Hispanic	31%	330	15

* Percent up to date with any recommended screening method

**Differences in lives saved between subpopulations reflect differences in current cancer mortality rates and current cancer screening rates.

Cervical Cancer Screening

Cervical cancer screening rates have declined among white, African American, Asian, and Hispanic women age 18 and older since 2000. The chart shows screening rates among women ages 18-64. White women had the highest screening rate in 2005, 85.5 percent, compared to 86.7 percent in 2000. Asian women had the lowest screening rate among these four groups in 2005, 64.1 percent, which is down from 65.8 percent in 2000. Among Hispanic women, 76.2 percent reported screening in the previous three years in 2005 compared to 77.2 percent in 2000. African American women experienced the largest decline in screening: 84.0 percent in 2005 compared to 87.5 percent in 2000.



Source: National Health Interview Survey, National Center for Health Statistics, CDC

Note: Screening rates among women ages 18-64

HEALTH IMPACT
CERVICAL CANCER SCREENING IN WOMEN AGES 18-64

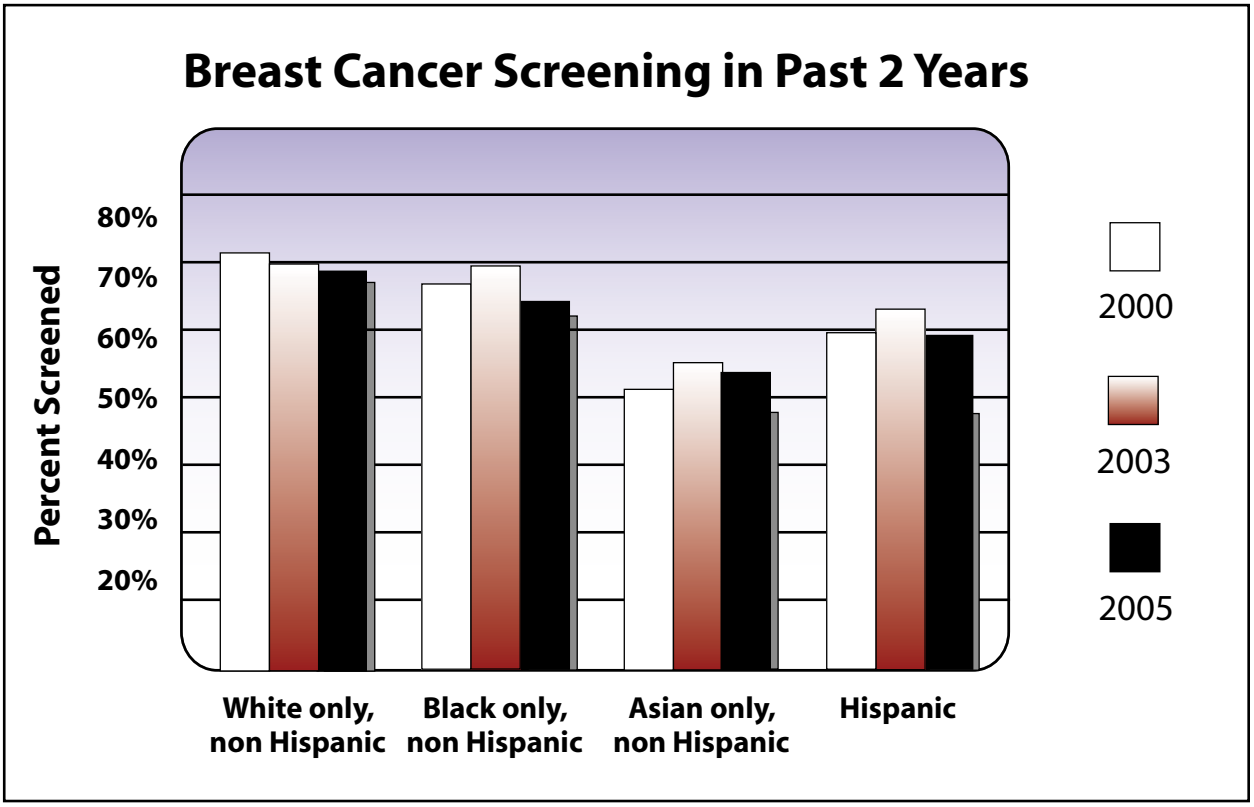
Population Group	% Screened in Past 3 Years (2005)	Lives Saved Annually If % Screened in Past 3 Years Increased to 90%	Lives Saved per 100,000 Annually If % Screened in Past 3 Years Increased to 90%
White only, non-Hispanic	86%	328	0.5
Black only, non-Hispanic	84%	125	1.2
Hispanic	76%	107	1.1
Asian only, non-Hispanic	64%	46	1.3

Differences in lives saved between subpopulations reflect differences in current cancer mortality rates and current cancer screening rates.

Additional deaths would be prevented if screening in the past three years reached 90 percent among women age 65 and older who need continued screening. We did not estimate this because we do not know the portion of women age 65 and older who need continued screening nor what their current rate of screening is.

Breast Cancer Screening

Breast cancer screening rates were down for white, African American, Asian, and Hispanic women age 40 and older between 2003 and 2005. White women reported the highest screening rate in 2005, 68.6 percent, which is down from 70.0 percent in 2003. Asian women reported the lowest screening rate in 2005, 54.5 percent, compared to 56.6 percent in 2003. African American and Hispanic women experienced the greatest declines in screening between 2005 and 2003: 64.6 percent of African American women reported breast cancer screening in the previous 2 years in 2005 compared to 69.6 percent in 2003, and 59.4 percent of Hispanic women reported having been screened in 2005 compared to 64.3 percent in 2003.



Source: National Health Interview Survey, National Center for Health Statistics, CDC

Note: Mammography screening among women age 40 and older

HEALTH IMPACT BREAST CANCER SCREENING IN WOMEN 40+			
Population Group	% Screened with Mammography in Past 2 Years (2005)	Lives Saved Annually If % Screened in Past 2 Years Increased to 90%	Lives Saved Annually per 100,000 If % Screened in Past 2 Years Increased to 90%
White only, non-Hispanic	69%	2,950	10
Black only, non-Hispanic	65%	500	14
Hispanic	59%	190	8
Asian only, non-Hispanic	55%	90	8

Differences in lives saved between subpopulations reflect differences in current cancer mortality rates and current cancer screening rates..

Appendix:

Data Sources on Use of 25 Clinical Preventive Services for General State or National Populations

Service[1]	Description[2]	Data Source Available and Consistent with the USPSTF or ACIP Recommendation[3]
Aspirin chemoprophylaxis	Discuss daily aspirin use with men age 50 and older, postmenopausal women, and others at increased risk for heart disease to prevent cardiovascular events	No[4]
Childhood immunizations	Immunize children against diphtheria, tetanus, pertussis, measles, mumps, rubella, inactivated polio virus, Haemophilus influenza type b, varicella, pneumococcal conjugate, influenza	NIS
Smoking cessation advice, delivery of effective counseling, and use of medications	Screen adults for tobacco use, provide brief counseling, offer medication and referral for more intensive counseling	BRFSS[5]
Alcohol 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	No
Colorectal cancer screening	Screen adults age 50 and older routinely with FOBT, sigmoidoscopy or colonoscopy	NHIS[6]
Hypertension screening and treatment	Measure blood pressure routinely in all adults and treat with anti-hypertensive medication to prevent the incidence of cardiovascular disease	NHIS, BRFSS, NHANES
Influenza immunization	Immunize adults age 50 and older against influenza annually	NHIS, BRFSS
Vision screening	Screen adults age 65 and older routinely for diminished visual acuity with the Snellen visual acuity chart	No
Cervical cancer screening	Screen women who have been sexually active and have a cervix within three years of onset of sexual activity or age 21 routinely with cervical cytology (Pap smears)	NHIS, BRFSS
Cholesterol screening and treatment	Screen routinely for lipid disorders among men age 35 and older and women age 45 and older and treat with lipid-lowering drugs to prevent the incidence of cardiovascular disease	NHIS, BRFSS, NHANES
Pneumococcal immunization	Immunize adults age 65 and older against pneumococcal disease with one dose for most in this population	NHIS, BRFSS, NHANES

Breast cancer screening	Screen women age 50 and older routinely with mammography alone or with clinical breast examination and discuss screening with women ages 40-49 to choose an age to initiate screening	NHIS, BRFSS
Chlamydia screening	Screen sexually active women under age 25 routinely	No
Discuss calcium supplementation	Counsel adolescent and adult women to use calcium supplements to prevent fractures	No
Vision screening — children	Screen children under age 5 routinely to detect amblyopia, strabismus, and defects in visual acuity	NHIS, MEPS[7]
Discuss folic acid supplements	Counsel women of childbearing age routinely on the use of folic acid supplements to prevent birth defects	No[8]
Obesity screening	Screen all adults routinely for obesity and offer obese patients high-intensity counseling about diet, exercise, or both together with behavioral interventions for at least one year	No[9]
Depression screening	Screen adults for depression in clinical practices with systems in place to assure accurate diagnosis, treatment and follow-up	No
Hearing screening	Screen for hearing impairments in adults age 65 and older and make referrals to specialists for treatment	No[10]
Injury prevention counseling	Assess the safety practices of parents of children under age 5 and provide counseling on child safety seats, window/stair guards, pool fence, poison control, hot water temperature, and bicycle helmets	No[11]
Osteoporosis screening	Screen routinely women age 65 and older and age 60 and older at increased risk for osteoporosis and discuss the benefits and harms of treatment options	No[12]
Cholesterol screening in high-risk groups	Screen men ages 20-35 and women ages 20-45 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	NHIS, BRFSS, NHANES
Diabetes screening	Screen for diabetes in adults with hypertension or high cholesterol and treat with a goal of lowering levels below target values	No
Diet counseling	Offer intensive behavioral dietary counseling to adult patients with hyperlipidemia and other known risk factors for cardiovascular and diet-related chronic disease	No[9]
Tetanus-diphtheria booster	Immunize adults every 10 years	NHIS[13]

[1] Services include those evaluated by the National Commission on Prevention Priorities for their 2006 rankings of clinical preventive services. Services in the same group were tied in the rankings, which was based on service's relative health benefits and cost effectiveness. For a complete description of the rankings see : 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. This article and other materials are available at www.prevent.org/ncpp.

[2] The description of each service is consistent with the recommendation of the U.S. Preventive Services Task Force (USPSTF) or in the case of immunizations, the Advisory Committee on Immunization Practices (ACIP).

[3] We reviewed data sources that are high-quality, publicly accessible, and nationally representative. For clinical preventive services, these include the Behavioral Risk Factor Surveillance Survey (BRFSS), National Health Interview Survey (NHIS), National Health and Nutrition Examination Survey (NHANES), Medical Expenditure Panel Survey (MEPS), and National Immunization Survey (NIS). BRFSS is a household telephone survey conducted in each state, thus providing state-specific data. NHANES combines interviews with physical examinations. NIS combines a household telephone survey with a mailed survey to children's immunization providers. NHIS is a household telephone survey. MEPS is a nationally representative subsample of households that participated in the prior year's NHIS.

[4] BRFSS (2005) and MEPS (2004) have asked survey respondents if they are taking aspirin daily or every other day. This does not tell us what doctors or other health care providers are doing to get patients to consider daily aspirin use.

[5] NHIS (2005) has only asked if smokers were advised to quit. BRFSS (2005) has asked about advice to quit as well as whether providers discussed medications or other strategies to assist with quitting. It is also important to know if effective treatments are being used as recommended. CDC's voluntary state-based Adult Tobacco Survey has assessed methods used to quit smoking.

[6] BRFSS (2005) and MEPS (2004) have also assessed the use of colorectal cancer screening, but do not allow researchers to discern whether the test was for screening or diagnostic purposes.

[7] NHIS (2002) asked parents whether children's vision has been screened. MEPS assessed childhood vision screening in 2001, 2002, 2003 and 2004.

[8] No survey has asked whether a health professional counseled about the benefits of using folic acid supplements. BRFSS (2004) has asked about use of multi-vitamins, including whether the vitamins or supplements contained folic acid. NHIS (2005) has asked about use of multi-vitamins, but not folic acid supplementation in particular.

[9] BRFSS (2005) asked if a health professional has given advice about weight. NHANES (2004) asked if a health professional has ever told you that you were overweight. BRFSS, NHIS, and NHANES surveys from previous years asked if a health professional has ever offered advice about eating fewer high fat and high cholesterol foods and eating more fruits and vegetables. It is impossible to discern from these questions whether the counseling was brief advice or the intensive behavioral counseling recommended by the USPSTF.

[10] NHANES (2003—2004) asked respondents how long it is has been since they last had their hearing tested. The USPSTF has recommended that health care providers periodically question older adults about their hearing and make referrals, not conduct hearing tests. The USPSTF recommendation is currently under review.

[11] MEPS (2004) asked if a health care provider had advised about child safety seats. NHIS (1999) asked if a health care provider had ever talked about injury prevention, such as safety belt use, helmet use or smoke detectors. This question was too general to assess consistency with the USPSTF recommendation.

[12] NHANES (2003—2004) asked respondents if a doctor ever told them they had osteoporosis. This does not provide data on screening history.

[13] NHIS (1999) asked adults if they had a tetanus shot in the previous 10 years.

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